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LEPIDOPTERA BRITANNICA;

SISTENS

DIGESTIONEM NOVAM

INSECTORUM LEPIDOPTERORUM

QUÆ IN MAGNA BRITANNIA REPERIUNTUR,

LARVARUM FABULO, TEMPOREQUE PASCENDI;
EXPANSIONE ALARUM; MENSIBUSQUE VOLANDI;
SYNONYMIS ATQUE LOCIS
OBSERVATIONIBUSQUE VARIIS.

"In his tam parvis, tamque fere nullis; quæ Ars! quanta Majestas! quam inextricabilis Pulchritudo! VILLARS, ex Plin.

AUTORE A. H. HAWORTH,

LINN. SOC. LONDINI SOCIO,

ATQUE

PRODROMI LEPIDOPTERORUM BRITANNICORUM
GENUSQUE AD MESEMBRYANTHEMUM OBSERVATIONUM
AUTORE.

ADJUNGUNTUR

DISSERTATIONES VARIÆ

AD HISTORIAM NATURALEM SPECTANTES.

LONDINI,

VENEUNT APUD J. MURRAY, FLEET-STREET;
EDINBURGI APUD BELL ET BRADFUTE; ET
DUBLINII APUD GILBERT & HODGES.

Typis R. Taylor, Black-Horse-Court.

1803.

TO THE

GENTLEMEN

OF THE

AURELIAN SOCIETY,

WHO HAVE GIVEN UP WITH UNEXAMPLED ZEAL,

FROM THEIR RESPECTIVE COLLECTIONS,

TO THE

AURELIAN CABINET,

EVERY BRITISH INSECT WHICH THAT DID NOT POSSESS,

THE FOLLOWING ACCOUNT

OF THE

LEPIDOPTERA OF GREAT BRITAIN

IS MOST HUMBLY INSCRIBED,

AS A TESTIMONY

OF

GRATITUDE AND ESTEEM,

BY THEIR GREATLY OBLIGED

AND

VERY HUMBLE SERVANT

A. H. HAWORTH,

FOUNDER AND CURATOR OF THE AURELIAN CABINET.

Like friendly colours sound our hearts unite,
And each from each contract new strength and light.

POPE.

INTRODUCTION.

THE want of a work on *British Lepidoptera*, like the present one, has long been acknowledged as a considerable desideratum in this country; and it has been a matter of the greatest surprise, amongst the Entomological proficients of the continent, that no one has yet been published upon a general and scientific scale.

Perhaps there is no nation existing which has acquired so extensive a knowledge of *Botany* as the English; yet few in Europe have advanced with less success, into the sister science of Entomology. I mean with respect to publications only; for our cabinets are probably not inferior to the continental ones.

Not half the insect inhabitants of this fertile and productive island have yet been published by a *British press*; although it is probable the greater part of them have been described by some or other of the writers on the continent.

The only *general* and *systematic* work on British insects hitherto published in this kingdom, which bears the least resemblance to the present one, is the trifling compilation of Berkenhout; in which little new matter is added, and multitudes of the species of his pre-

decessors omitted: his work does not exceed two hundred *Lepidoptera,* and about three hundred more in the other orders. Nevertheless, it has been found very useful as far as it goes; and the public have demanded three editions of it.

The *British Insects* of my friend Donovan is an elegant and valuable publication; yet it is not a general work, intended to include *complete descriptions of every species*; but confessedly, a *selection only,* of those which are most interesting.

A far more elaborate account of *British Entomology* than that of Donovan, is expected from a pen much superior to either his or mine:—I mean that of my friend T. Marsham, Esq. who has laboured a great many years for that purpose, and lately published his first volume, containing the *Order Coleoptera.* The completion of this work will be highly pleasing to all admirers of the science; but the extreme intricacy of its subsequent parts, must still require a considerable period of time, and infinite pains and skill; to give them that perfection which is so manifest in the valuable volume already published; and to communicate them to the public before they have acquired that finish, merely to gratify the impatience of curiosity, what judicious Entomologist would either wish or desire?

Until that time shall arrive therefore, and possibly

long afterwards; it is presumed this present work will be found at once necessary and useful: because it is constructed on a plan entirely dissimilar to any other, hitherto announced to the public.

But if any other qualifications should be wanted to recommend it, let them be, *the conciseness and novelty of its Sectional, Generic, and Specific Characters*; *the amplitude of its general descriptions, which are likewise perfectly new*; *and the entire novelty of the Observations* (*a*) which occasionally follow them. Those parts which relate to the *times of feeding, food, and times of flight, and measure of the wings, are also completely new*; and not taken from the works of Harris, or any other author; two or three solitary instances alone excepted, where the circumstances are properly acknowledged.

(*a*) These observations are given in English, after the manner of my friend the Rev. Mr. Kirby, in his *Monographia Apum Angliæ*. They may possibly be thought by some readers mere unnecessary digressions, in a technical work like the present; but there are others, who, far from calling them a deterioration; will say they are both desirable and explanatory; and have likewise a peculiar tendency to remove that well-known tedium, which never fails to accompany uninterrupted technicality.

PREFACE.

MANY years have now elapsed, since, with enthusiastic pleasure, I began to collect, arrange, and describe the natural productions of this our fertile and happy island; but more especially its *Birds*, *Insects*, and *Vegetables* (*a*).

For

(*a*) Permit me here to solicit from my fellow admirers of Natural History, a few desiderata, in those branches of the science, which yet remain to complete my collection of *British Birds*, *Lepidoptera*, *and perfect Plants*; and to express my readiness to make any return, either pecuniary, or in articles of Natural History, that may be required.—Of the *Birds* of these united kingdoms,

Falco griseus. Gray Falcon.
—— *Danicus.* Spotted Falcon.
Turdus. The Heath Thrush of Lewin.
Otis Tetrax. Little Bustard.
Ardea Grus. Crane.
—— *comata.* Squacco Heron.
—— *rutila.* African Heron.
—— *Gardeni.* Of Latham.
Numenius Pygmæus. Pygmy Curlew.
Scolopax Lapponica. Of Latham.
—— *cinerea.* Cinereous Godwit.
—— *Cantabrigiensis.* Cambridge Godwit.
—— *limosa.* Jadreka Snipe.
—— *glottis.* Greenshank.
Scolopax Totanus. Spotted Snipe.
Tringa ochropus. Green Sandpiper.
—— *cinerea.* Ash-coloured Sandpiper.
—— *macularia.* Spotted Sandpiper.
—— *Icelandica.* Red Sandpiper.
—— *Grenovicensis.* Greenwich Sandpiper.
—— *fusca.* Brown Sandpiper.
—— *Leucura.* Black Sandpiper.
—— ..... Purple Sandpiper of Walcott.
Charadrius cursor. Cream-coloured Plover.
Podiceps auritus. Eared Grebe.

Alca

For these purposes I have diligently examined many parts of England personally, and usually on *foot* and alone; but sometimes accompanied by *pedestrian* friends of congenial sentiments and taste. Industriously we have sought, and never once in vain, a great variety of woods and lawns, hills and vales, marshes and fens; one summer only, travelling in various journeys, not fewer than a thousand miles; in spite of heat and cold, wet and drought, and various other concomitant impediments.

"*Quis in sole exustus, pede celeri montes agrosque percurrit? Ille solus qui natura doctus fuerit, qui vini, cibi, somnique minime benignus, pane secundo lacteque contentus, tuguria rusticosque non spernit.*" VILLARS. ENTOM. *Preface.*

But the counties I have more particularly, and more successfully entomologized in, are, Middlesex, Sussex, Essex, Surrey, Kent, and the beautiful Isle of Thanet; Oxfordshire, Cambridgeshire, Lincolnshire, Westmore-

---

Alca impennis. Great Auk.
Colymbus Immer. Imber Diver.
Larus cataractes. Skua Gull.
—— *crepidatus.* Black-toed Gull.
—— *parasiticus.* Arctic Gull.
Procellaria glacialis. Fulmar.
Anas ruficollis. Red-breasted Goose.
Anas glocitans. Binnaculated Duck.
—— *rufigaster.* Red-breasted Sheveler.
—— *spectabilis.* King Duck.
—— *histrionica.* Harlequin Duck.
Pelecanus cristatus. Crested Shag.

Of the favourite and beautiful order of Insects, *Lepidoptera*; those only whose names have a † attached to them in the margins of this work.

And of the described *perfect Plants* of Great Britain (as they are usually but inaccurately called) the few following:

Orchis abortiva.
Ophrys corallorhiza.
Serapias rubra.
Serapias ensifolia.
Potamogeton setaceum.
Schœnus minimus.
Bromus multiflorus.
Anthericum serotinum.

land,

land, and the several ridings of the great county of York. And lastly, although not least in my estimation (because it is my native one), the little county of the town of Kingston upon Hull.

From the first of my collecting insects, I have kept a *regular Aurelian Journal* of the *times and places* in which I beheld any of the *British Lepidoptera alive*, whether in the *Larva* (Caterpillar), *Puppa* (Chrysalis), or *Imago* (the winged or perfect) state; never discarding from my memory the Linnæan maxim, "*Nulla dies sine linea.*"

The times and places of appearance of those rare species which I have not been fortunate enough to behold alive myself, either in their native places, my own breeding-cages, or those of my entomological friends; I have extracted from the *journals* of some or other of those friends: and in three or four instances, where every other source was insufficient, from the "*Aurelian's Pocket Companion*" of Moses Harris, but never without a proper acknowledgment. All the communications of my friends I have likewise acknowledged, under their proper articles; unless the information was not new to me, or unnecessary to be given in addition to my own.

The species whose names in the margins are marked with an asterisk, *are alone those*, which I have never seen but in a preserved state, in the *Aurelian* or other cabinets. All the rest *I have absolutely beheld alive.*

"*Non hæc in nostris, ut quondam scribimus Hortis.*" OVID.

In the beginning of the year 1801, my *Prodromus Lepidopterorum Britannicorum* was anonymously submitted to the inspection of the entomological world. I am the person who must be answerable for every imperfection in that little work; in the preface to which I pledged

pledged myself to lay before the public, a more extensive account of the *British Lepidoptera* than has hitherto been done; with a new arrangement of the subject; new genera: new divisions: and new terminations to such of the specific names as the celebrated Linnæus had omitted to terminate in a regular and uniform manner. This promise I trust will be found amply performed in the present work, in which the *Lepidoptera of Great Britain*, as far as hitherto discovered, are divided into twelve genera; each with new appropriate sections, divisions, and subdivisions (*a*), as far as necessary; and each genus of the *Moths* terminated in a regular and uniform manner.

The *Prodromus*, although a mere catalogue of names of *Lepidoptera*, with their times and places of appearance in the winged state; cost me some trouble, and was the essence of much labour. Small and trifling as it may appear, the sentiments of "that universal genius *John Reinhold Forster*," as our great countryman, the Zoölogical *Pennant* (*b*), thinks proper to call him, will alone effectually rescue it from the imputation of frivolity. He says on a similar subject (his own Catalogue of British Insects)—"This catalogue contains 1000 insects. The Swedes have near 1700; it would therefore be an honour to this country to scrutinize carefully into the various branches of its *Natural History*, to give the public as perfect and extensive Catalogues of British Animals as possible."

(*a*) After the manner of the Linnæan school, I have marked my sections by asterisks (*), my divisions of those sections with daggers (†), and my subdivisions of them by prostrate daggers (+). But further than the prostrate dagger I have not found it necessary to divide.

(*b*) Preface to vol. iv. of British Zoölogy.

The

The reason why Forster did not go on with the account of British insects, promised in this catalogue, was probably the circumstance of his being suddenly requested to attend, and his absolutely attending, the celebrated Cook in his second famous voyage round the world; in the capacity of a naturalist. The philosophical result of this memorable expedition, as published in his "*Observations,*" few literary men have yet to learn.

Prior to the publication of my *Prodromus*, I had endeavoured, and nearly succeeded in my endeavour, to establish an *Aurelian Society*; *and a standard, permanent, and complete collection of British Lepidoptera*; under the name of the *Aurelian Cabinet*.

This collection, containing (with the exception of about seventy species, and a few Tineæ,) all the *known British Lepidoptera*, and a very considerable portion of insects in the other orders; it is my intention to give to the *Aurelian Society*, *bonâ fide*, *and without fee or reward*; as soon as it shall amount to twenty living members; to be kept up by them and their successors, for ever hereafter, as a *standard and permanent collection of British insects*: in such manner as I shall elsewhere direct, for the benefit and advantage of this my favourite department of the science of Entomology.

The society at present consists of about 10 members only. They are all *collectors of British insects, and possess collections*; and it is by no means unworthy of remark, that they have every one hitherto contributed articles to the *Cabinet*, which could not have been procured from any other source whatever. All these gentlemen have given up, with unexampled zeal, from their respective collections, to the *Aurelian Cabinet*, every

British insect which that did not contain; thus assembling together the most extensive collection in British Entomology hitherto made.

The leading objects of the *Aurelian Society* are, *to form a complete and standard cabinet of the Entomological productions of Great Britain:—to ascertain their names and distinctions*—"Nomina si nescis, perit et cognitio rerum"—*their times and places of appearance: food: œconomy and peculiarities:—and to point out to the public the readiest and most desirable methods of destroying such as possess properties which are inimical to the welfare of mankind.*

Having now spoken sufficiently of the institution and views of the above society, I shall beg leave to explain the nature and novelty of the genera and sections into which the genus *Phalæna* of Linnæus is divided in the present work.

The *divisions* of Linnæus for this genus, (although still in use by the Fabrician school,) drawn chiefly from the position of the wings of the living insects as they rest, however sufficient they may have been for the comparatively small number of species known to that great naturalist, I have found altogether inapplicable in the present improved, and astonishingly augmented state of the science; particularly since it has been, and continues to be, the beautiful fashion of expanding the wings of the *Lepidoptera* preserved in cabinets, in an horizontal and uniform manner.

This practice, adding artificial to natural elegance, is now universally adopted, both in this country and on the continent; but it unhappily destroys, and in the most effectual manner possible, the principal characters on which

which our great master founded the divisions of his *Moths*; viz. *the attitudes of their wings when alive and at rest.*

In consequence of this, it is sufficiently obvious, that *new divisions, formed upon other characters,* are become essential desiderata in the *Linnæan Genus Phalæna.*

After the most mature consideration of this part of my subject; and a frequent and careful contemplation of the most extensive collection of *British Lepidoptera* yet made; exclusive of fifty-two other cabinets, and eighteen more collections of inferior note; I have found it necessary and expedient to divide the genus *Phalæna* of *Linnæus,* into nine distinct genera; by characters taken from the structure of the *Antennæ,* aided by others drawn from the *Larvæ* (*a*). Each of these genera I have variously divided and subdivided, as far as necessary, to facilitate the investigation of the student; on characters derived either from the exterior outline of the wings, or from some peculiarity or other, depicted upon their *superior surfaces.* Their *inferior sides* I have never found it necessary to mention, either in my sectional, specific, or general descriptions; which will agreeably enough save the student the trouble of opening his drawers, for the purposes of investigating the under side of a Moth. All the species which I have hitherto had an

(*a*) Some Entomologists will probably censure me for introducing the *Larvæ* into the *generic characters*; but I trust the learned author of the *Monographia Apum Angliæ* will not. His edifying sentiments, I am proud to say, are much in unison with my own. He says, vol. i. p. 39. "In these small animals, I call that a *generic character which is constant through a genus, from whatever part it is taken.*" Vide my further opinion on this head at the end of the genus *Zygæna.*

opportunity

opportunity of examining, have *beneath*, either characters in common with many others, or such as are of no consequence after the enumeration of the more material ones on their *upper surfaces*. It is almost needless to add, this is not the case in the Genus *Papilio*; but it is in the Genera *Sphinx* and *Zygæna*.

The sections in the Genus *Papilio* are not entirely to my liking, but they are nearly so. Would not the *ocellated* species (not belonging to the *Equites*) form a good section with two divisions, thus?

* Ocellatæ. *Alis ocellatis.*

† *Alis dentatis.*

†† *Alis integris.*

The first division would take in none but what are at present in the *Nymphales Gemmati*; but the second would include all my British *Danai Festivi*, and all my *Plebeii Rurales*, except the first division *Caudatæ*.

On this point the opinion of our ingenious but unfortunate countryman *Yates* (*a*), although well known, so very much accords with my own ideas, as to render a detail of it necessary in this place: he says,

"The family of *Plebeii* in particular is very inaccurate, and contains insects very different from one another, at the same time that they resemble and have all the characters of some or other of the preceding ones, under which many of them might I think be properly arranged: the remaining *Plebeii* would compose a family very distinct from all the others, and which might be formed into two sections; the first containing small Butterflies,

(*a*) "Yates Anglus strenue Insecta collegit, at periit 1782 morte voluntaria." *Fab. Ent. Syst.* article *Yatsana.*

having long and flexible, or weak tails, slender bodies, and clubbed antennæ, &c.; the other distinguished by the shortness, thickness, or breadth of their head, thorax, and abdomen, &c." *Yates Gen. Ins. p.* 132.

This alteration, however, I have not adopted, because the whole Genus *Papilio* has undergone a complete revision and arrangement, derived from the anatomy of the wings, since the death of Yates, by my very able and much respected friend W. Jones; in the 1st vol. of the *Transactions of the Linnean Society.*

Few except those who have encountered similar difficulties in similar undertakings, will be aware of the trouble my new arrangement has cost me. Not long after it was made and published in my *Prodromus,* I procured from the continent *Borkhausens European Schmetterlinge,* in which I had the pleasing satisfaction of finding the European *Lepidoptera* divided upon principles by no means dissimilar to my own. My total ignorance however, of the German language, is an effectual impediment against my making that use of it, which otherwise, in all probability, might have been done.

In the preface to the *Prodromus,* I have greatly extolled the uniformity of the terminations of Linnæus to most of the sections in his *Genus Phalæna,* by which alone, numerous species are decidedly referred to the divisions they belong. In this place it is only necessary to add, that in the following pages, I have endeavoured to perfect, as far as possible, the original intentions of that celebrated man on this head; by adopting all his *uniform terminations;* and by inventing others of a similar purport, to such of my genera as required them; *whereby alone, all our British Moths are unerringly referred to*

the

the genera to which they belong; and the disagreeable and unscientific necessity of repeating the name of the genus with the species, effectually removed; a tautology which I have found harsh and unpleasing to the ears of my classical friends. Donovan seems to have felt the inconvenience of this, although he suggests no remedy for it, under the article *Noctua marginata*, in his *British Insects*, where he tells us, "the *sectional divisions of the Genus Phalæna*, must be particularly attended to when the *same specific name occurs more than once.*"

My late ingenious friend Mr. William Curtis (*a*), (whose opinion on this point is a tower of strength,) was an advocate for uniform terminations. In his *Translation of the Fundamenta Entomologiæ* of Linnæus, after praising the uniformity of the terminations in many of Linnæus's divisions of the Genus *Phalæna*, he says, "*It were to be wished that similar institutions could be formed throughout the whole science, as here the name itself serves to distinguish the insects.*"

The bright invention and adoption of uniform termi-

(*a*) On my mentioning to Mr. Curtis, some time before his death, my intention of attempting the establishment of a society to collect and explain *all the natural productions of Great Britain*, or at the very least the *entomological ones*, he assured me he had once meditated a similar thing himself, under the appellation of *Musæolum Britannicum*; and as he had abandoned the idea of pursuing it, he presented me *his collection of British insects*, to encourage me to do so. It possessed but few interesting *Lepidoptera*, yet was rich in the orders *Hymenoptera* and *Diptera*; which last, it is well known, was his favourite order; especially that part of it which comprised the Linnæan genus *Musca*. Soon after this Mr. C. brought me a fine living specimen of the rare *Musca grossificationis*.

nations,

nations, however, does not appear to have struck the vast mind of Linnæus, until he had passed through the *Bombyces* and *Noctuæ*; but in his very next section he applied to every species the termination *aria*; and to *every succeeding section*, a peculiar and appropriate one; which he afterwards used in various editions of his works. It is probable, therefore, he had printed his first entomological work *past* the *Noctuæ*, before the idea of uniform terminations occurred to him; and that after having printed the *Bombyces* and *Noctuæ* with *irregular* terminations; he did not care to disturb what had passed the ordeal of the wide-spreading press, by giving *regular* terminations to them. I had some embarrassment to combat, in modelling the terminations of *Bombyx*, *Noctua*, and *Hepialus* (all the others Linnæus himself had done); several of which end more abruptly, not to say barbarously, than could be wished, as in the species *Tauus*, *Ziczacus*, *Castrensus*, &c. for *Ziczac*, *Tau*, *Castrensis*, &c.: but these minor inequalities, as my readers will generally deem them, are abundantly counterbalanced by the advantage that must manifestly accrue from the alteration.

It is by the consent, and full and individual approbation of all the members of the *Aurelian Society*, that I have terminated the divisions of the Linnæan Genus *Phalæna* in this work, as follows, making each division a distinct Genus: the *Bombyces* in *us*; *Noctuæ* in *ina*; (except the Sallows (*a*) of Aurelians, which retain their

(*a*) These are all as beautiful as they are rare: the ground colour of their upper wings is always more or less yellow, with bars or streaks of dots of a darker colour.

termination

termination in *ago*) *Hepiali* in *ator*; the *Geometræ* in *aria*; *Phalænæ* in *ata*; *Pyralides* in *alis*; *Tortrices* in *ana*; *Tineæ* in *ella*; and the *Alucitæ* in *dactyla*.

My specific and detailed descriptions of every species and variety, are entirely new wrought, and from British specimens; except in a very few instances, where I either had no British specimens, or where they were not very good; in which cases only, I have extracted the description of Linnæus, Fabricius, or Villars, but in no instance without a proper acknowledgment.

But the descriptions of the *Larvæ* and *Puppæ*, I have principally taken from the *Entomologia Systematica* of *Fabricius*, because my own notes on those two points were not so full as I could wish, and chiefly made before I had conceived an idea of submitting them to the inspection of the public eye.

If any one should wish to know the time of any species being in the *Puppa* (*a*) state, he may form a very good

(*a*) The length of time necessary for puppation differs remarkably in different species; but it is generally constant in the same species. Some take only a few days, whilst others require many weeks or even months; and the Moth *Lanestrus* (which usually becomes a *puppa* at the end of summer and an *imago* in the February following) many Aurelians have possessed individuals of, which remained two or even three winters in chrysalis, and then came out, as perfect in every respect as others of the same brood, which had only passed one winter in that state. I once saw a very fine specimen of *Sphinx Ligustri*, which had absolutely been a *puppa* three years; and my intelligent friend the Rev. J. Burrell once bred a beautiful specimen of the Moth *Pavonus*, which had existed two years in that condition. The causes which occasion these extraordinary delays, it is impossible to develop in any satisfactory manner: but it is well known, that the objects of them appear at last in the winged state, in

good idea of it, where I have given the times of the *Imago* and *Larva*; it being of course more or less intermediate between those times.

The Habitats (as they are usually called) of the *Puppæ* I have not thought it necessary to give, because they are all in the vicinity of the food of the *Larvæ*, and in most instances concealed about some part of it. But, in those species whose *Larvæ* I know penetrate into the earth, to effect, in secrecy profound, the amazing metamorphoses which the Almighty Creator of the Universe has destined them to undergo; I have not failed to mention they are subterraneous ones. These surprising transitions have often, and with great propriety, been considered as highly typical of our own last eventful change, from this life to a better. On this interesting topic thus sweetly sings an unknown bard:

" The helpless crawling caterpillar trace,
From the first period of his reptile race.
Cloth'd in dishonour, on the leafy spray
Unseen he wears his silent hours away;
Till satiate grown of all that life supplies,
Self-taught, the voluntary martyr dies.
Deep under earth his darkling course he bends,
And to the tomb, a willing guest, descends.
There, long secluded in his lonely cell,
Forgets the sun, and bids the world farewell.
O'er the wide wastes the wint'ry tempests reign,
And driving snows usurp the frozen plain:
In vain the tempest beats, the whirlwind blows;
No storms can violate his grave's repose.
But when revolving months have won their way,
When smile the woods, and when the zephyrs play,

in their proper and customary *months of the year*, as regularly as if nothing unusual had occurred: so that when they happen to exceed, perhaps only one month, the proper period of their emancipation from the *puppa*; it becomes essentially necessary for them *to sleep on* until their *due time* the following season. For what reasons, or by what laws, let physiologists decide.

When laughs the vivid world in summer's bloom,
He bursts; and flies triumphant from the tomb;
And while his new-born beauties he displays,
With conscious joy his altered form surveys.
Mark, while he moves amid the sunny beam,
O'er his soft wings the varying lustres gleam.
Launch'd into air, on purple plumes he soars,
Gay nature's face with wanton glance explores;
Proud of his vaying beauties wings his way,
And spoils the fairest flowers, himself more fair than they.
"And deems weak man the future promise vain,
When worms can die, and glorious rise again?"

Equally interesting and applicable are the following lines from the transcript of a poem in my possession, whose author I am not certain of:

"See to the sun the Butterfly displays
Its glittering wings, and wantons in his rays:
In life exulting, o'er the meadows flies,
Sips from each flow'r, and breathes the vernal skies.

"Its splendid plumes, in graceful order, show
The various glories of the painted bow.
Where love directs, a libertine it roves,
And courts the fair ones thro' the verdant groves.

"How glorious now! how chang'd since yesterday!
When on the ground, a crawling worm it lay!
Where ev'ry foot might tread its soul away!
Who rais'd it thence? and bid it range the skies?
Gave its rich plumage, and its brilliant dyes?

"'Twas GOD.—Its GOD and thine, *O Man*, and HE
In this thy fellow-creature lets thee see
The wondrous change which is ordain'd for *thee*,
Thou too shalt leave thy reptile form behind,
And mount the skies, a pure ethereal mind,
There range among the stars, all bright and unconfin'd."

Ever partial to the genuine beauties of poetry, I can not refrain from adding the following verses, perhaps still more interesting, from Mrs. Barbauld: no judicious reader can be displeased at them; especially as they elucidate a different part of our subject: viz. that portion of the *Lepidoptera* which swathe their *Puppæ* above the ground

ground in silken shrines of the most extraordinary and complicated texture, and which do not "deep under earth their darkling courses bend," to effect their transformations: Aurelians call them *Spinners*.

Observe the insect race, ordain'd to keep
The lazy sabbath of a half-year's sleep.
Entomb'd beneath the filmy web they lie,
And wait the influence of a kinder sky.
When vernal sunbeams pierce their dark retreat,
The heaving tomb distends with vital heat;
The full-form'd brood, impatient of their cell,
Start from their trance, and burst their silken shell;
Trembling awhile they stand, and scarcely dare
To launch at once upon the untried air.
At length assur'd, they catch the fav'ring gale,
And leave their sordid spoils, and high in æther sail.
Lo the bright train their radiant wings unfold,
With silver fringed, and freckled o'er with gold.
On the gay bosom of some fragrant flower,
They idly flutt'ring live their little hour;
Their life all pleasure, and their task all play,
All spring their age, and sunshine all their day.

What atom forms of insect life appear!
And who can follow Nature's pencil here?
Their wings with azure, green, and purple gloss'd,
Studded with colour'd eyes, with gems emboss'd,
Inlaid with pearl, and mark'd with various stains
Of lively crimson through their dusky veins.

The synonyms throughout the following pages *I have in every instance*, carefully, and in most cases repeatedly, *examined with my own eyes*; copying none from any one; and rejecting from every one, Linnæus himself not excepted, such as I conceived to be inaccurate or objectionable.

"*Vidi equidem, vidi his oculis puerilibus olim,*
Nec res fallit." Linn. Fl. Lapp.

This part of the undertaking has cost me infinite labour;

bour; but patience and perseverance have enabled me to accomplish it, and surmount all its attendant impediments. The synonyms of the catalogues of Harris, Martyn, and the *Prodromus Lep. Brit.* lead but to little information, and are only given in a very few instances, either where the name occurred nowhere else, or as a corroborating testimony of certain rare *Moths*, &c. being really natives of Great Britain, such as *Pinus*, *Disparus*, *Delphiniina*, &c.

The expanse of the wings I have taken almost entirely from specimens preserved in the *Aurelian Cabinet*, which are for the most part *large and fine*. The size of insects will vary a little, (from the greater or less quantity of food they receive while in the *Larva* state) but never so much as to mislead an experienced collector. In the largest species of *Lepidoptera*, the greatest variation is seldom more than a few lines, and in the smaller species proportionably less. The females are almost without exception somewhat larger than the males, and sometimes considerably so; but where that is known to be the case I have given the dimensions of both, in inches and lines, and distinguished the sexes by their initials M. and F. The insects, when measured, are supposed to be in a flat position, and their upper wings extended as much as possible.

The abbreviations used in this work, are nearly the same as those given in my *Prodromus*. The division of the month into three parts, to express the times of appearance of the species, both in the *Larva* and perfect states, is expressed by *i.* (*initio*, the beginning), *m.* (*medio*, the middle), and *f.* (*fine*, the end): *v. d.* signifies *volatu diurno*, flying in the day; and *v. p. volatu pomeridiano*, flying

flying in the afternoon, like *Rubus* the Fox, &c. All the other species fly in the evening, and many of the day fliers will also fly again in the evening. *Mus. Aurel.* signifies the *Aurelian Cabinet*.

The *English names* of the British *Lepidoptera*, as far as they are unobjectionable, and have been used by Ray, Petiver, Harris, Wilks, Berkenhout, Donovan, and others; I have carefully preserved in parentheses immediately following the Latin names; and to all the other species I have added the names which have been assigned them by the *Aurelian Society*. These names may be thought frivolous and uninteresting by many; but there are others who will probably be of a different opinion. The sanction of the great and pious Ray is alone sufficient to rescue any thing which he adopted, from the charges of triviality. Some of the English appellations, it is true, are highly fanciful, not to say absurd; and lead to no information: such for instance as *The Miller of Mansfield*, &c. All of this cast, except in the Genus *Papilio*, I have rejected. *Miller* was formerly, and is still, in some parts of England, a common term for any large *Moth*. In Westmoreland the larger *Moths* are often called *Bustards* and *Owls*. In Sussex *Owls*. In Yorkshire, and the neighbourhood of London, *Moths* only; or *Hawk-Moths*, or *Clear-winged Moths*, if they belong to the Genus *Sphinx*. *Small Moths* in Lincolnshire and Yorkshire, when they fly into burning candles, which they very frequently do, are called *Soles*. The term *Moth* (*b*) is the only one in *general acceptation* throughout

(*b*) Moths are divided into several generical heads by our English Aurelians. My *Zygænæ* they call *Burnets* or *Foresters*; my *Hepiali* they term

throughout England, for our nocturnal *Lepidoptera*, as that of *Butterfly*, or *Fly*, is for our diurnal species; all the other appellations being strictly provincial, and frequently unknown in the next county to that in which they are used.

Since the body of this work was printed, my friend the Rev. Dr. Abbott of Bedford has informed me that he took in *May* (*a*) last, near Clapham Park Wood in Bedfordshire, a specimen of *Papilio Podalirius* in the winged state: and that he also took in *June* last, in White Wood near Gamlingay, Cambridgeshire, the *Papilio Daplidice* (in a faded state) and likewise *Papilio Latho-*

term *Swifts*; my *Noctuæ* are called *Full-bodies*; and my *Bombyces*, *Feathered Full-bodies*; because the male antennæ are pectinated; my *Phalænæ* are denominated *Slender-bodies*; my *Geometræ*, *Feathered Slender-bodies*; and the *Larvæ* of both the last are distinguished from all other *Larvæ*, by the expressive appellation of *Loopers*; my *Pyralides* they separate into families, the names of which will be given when I come to the Genus *Pyralis*: all the remaining Moths (except my *Alucitæ*, which are very properly called *Plumes*) pass under the comprehensive denomination of *Small-Moths*, or *Tineæ*. These definitions appear to be sufficiently apt; but that of *Looper* is perfectly typical of the geometrical motion, which is so conspicuous in all the *Larvæ* of my *Geometræ* and *Phalænæ*.

(*a*) In my account of *Papilio Podalirius* in page 6 of this work, I have given the month of *May* as the time of the *Larva*, and the month of *August* as the time of the *Imago* of that insect, but both with a note of interrogation. My reason for giving those times was, the circumstance of Dr. Smith's relating in his *Tour on the Continent*, that he saw *Podalirius* flying in the streets of Versailles, in the month of *August*, and extremely plentiful at Genoa in the month of *July*. Vide *Smith's Tour on the Continent*, *vol.* 1. *p.* 72. *and vol.* 3. *p.* 96.

In all probability *Podalirius* is double-brooded, like the kindred species *Machaon*; and if so, it must be in the *Larva* state in this country in *June*, and again in *September*; and in the *Imago* state in the corresponding months of *May* and *August*.

nia. These are three extremely interesting species, and there is not a British specimen of any of them now extant, except the above.

Podalirius (the *scarce Swallow-tail*) has not been seen alive in Britain, since the time of Ray; unless Berkenhout possessed it, which he probably might, because I have heard of his giving a high price for a rare *Swallow-tail Papilio*, said to be taken in Cambridgeshire, which was probably the identical specimen of *Podalirius* that he has described in his *Synopsis of the Natural History of Great Britain*, and which he there says is "*rare in woods.*"

An ingenious and practical Aurelian friend has informed me that he took *two sorts of swallow-tailed Papilios*, near Beverley in Yorkshire, five-and-twenty years ago, but no specimens of them are now extant; a fire which unhappily destroyed great part of his property, having consumed them likewise. Now, as we have only two swallow-tailed species in Great Britain, one of the above in all probability was *Podalirius*. I know *Machaon* (*the common swallow-tailed Papilio*) breeds near Beverley yet; and my brother-in-law, R. Scales, of Walworth near London, possesses a specimen of it which was taken there about seven years since.

Papilio Daplidice (*the green-chequered White*) was taken in England, in the days of the indefatigable Petiver, by his friend Vernon; but never since that time; unless the very ambiguous account of it, related in Lewin's work, is admissible. Be this as it may, there is no British specimen of it now extant, except my friend Abbott's.

As to the Gamlingay *Lathonia* (*the Queen of Spain Fritillary*),

Fritillary), it is, in my estimation, the most interesting insect we have in the whole genus; because it is not only extremely rare and beautiful, but, if it is the same as our London *Lathonia* (which perhaps admits of a doubt), it is likewise double-brooded, and that in a very singular and unusual manner: that is, a brood of it flies in *May* at Gamlingay, but not near London; and another separate brood of it flies in *September* near London, but not at Gamlingay; and never contrarywise. And this is still further extraordinary, as no other Fritillary we possess in Great Britain, was ever known to breed more than once in the same season, and that in the months of *May*, *June*, or *July*, as will appear on consulting the accounts I have given of the Fritillaries in this work.

Lathonia was not very rare in Gamlingay Wood, Cambridgeshire, in the days of Petiver. It has also been taken at Wisbeach, and my friend Dr. F. Skrimshire assures me, he has seen a specimen of it in some picture, which was taken many years since in his father's garden at that place.

My friend Mr. Hatchett of Kingsland knew an old London Aurelian, of the name of Shelford (*nunc inter beatos*), who was so much attached to *Aurelian* amusements, and so much enamoured of the beautiful and rare *Lathonia*, that he absolutely determined upon, and, accompanied by his daughter, successfully performed (in postchaises) a journey to Gamlingay in pursuit of that charming *Papilio*, which he had the good fortune to meet with and secure: but his specimens are not now extant. Our London *Lathonia* is infinitely more rare than the Gamlingay one; there have only been seen

five

five individuals of it, all in different and distant years, and all in the month of *September*. Every one of these I have examined; but the Gamlingay *Lathonia* never.

I have also found, since the body of this work was printed, that Martyn enumerates in his *Aurelian's Vade Mecum*, the following fine insects, as natives of Britain, which are very distinct from all here given, and from each other; they are frequent on the continent, but I have not yet seen British specimens of them.

1. PAPILIO *Palæno*. *Linn. Faun. Suec.* 272. 1041.
2. PAPILIO *Populi*. *Linn. Faun. Suec.* 277. 1055.
3. PAPILIO *Ligea*. *Linn. Faun. Suec.* 275. 1050.
4. BOMBYX *Celsia*. *Linn. Faun. Suec.* 303. 1141.

And I have recently heard that the PAPILIO *Apollo* (*Linn. Faun. Suec.* 268. 1032.) has been found in Scotland, but have not seen a British specimen of that beautiful species myself.

If *Lepidoptera Britannica* is found to merit the approbation of the public, an appendix will probably be added to it, containing a Glossary of Entomological Terms, as far as they belong to the class *Lepidoptera*; in which will be given a set of figures, defining the various shapes of the wings, and explaining their different kinds of *fasciæ, strigæ, lineæ, lituræ, maculæ, puncta*, &c.; to which will be added either a table of colours, or a table referring each gradation of colour to some well known insect; which perhaps would be preferable to the colours themselves.

A short introduction to the science of Entomology would likewise be given, had it not already been done by Harris, Curtis, Donovan, and others.

It only now remains for me, before I close this prefatory address, to return my sincere thanks and acknowledgments, to the several gentlemen of the *Aurelian Society* in particular, and to all my other Entomological friends in general; who have, with great liberality, assisted me in this undertaking; either with the loan of scarce and valuable publications; or the free and unreserved liberty of inspecting their cabinets, and taking descriptions, or drawings, or both, of such *British Lepidoptera*, as were necessary for the completion of my plans.

These public testimonials of my gratitude however, are in a more especial manner due to my much esteemed, and very able preceptor in the science of Entomology, W. Jones, F. L. S. to whom my best thanks, and best wishes, are but a feeble and inadequate return, for the extensive sum of instruction, which has emanated from that respected friend, towards his edified and grateful pupil.

My particular acknowledgments are likewise eminently due, and are here most willingly presented to my very good and learned friend J. Burrell, M. A. & F. L. S. who has not only been the contributor of many rare and unique Moths, to the *Aurelian Cabinet*, but at my request invented the elegant termination *ina*, for our *Noctuæ*; and who has moreover taken the trouble of revising all the entomological pages of this work. For a revisal of the remaining parts, my further thanks I most willingly give, to my abovementioned and obliging friend, W. Jones.

Little Chelsea,
July 1803.

A. H. HAWORTH.

TERMS

OF BECOMING

A MEMBER OF THE AURELIAN SOCIETY.

ANY person desirous of becoming a Member of this Society, must be approved of by every one of the Members for the time being; and if he possesses a collection of British Insects, he must give up from it, to the *Aurelian Cabinet*, at least one specimen of every species and variety, which the latter does not possess: for which he will immediately receive from the Curator of the Cabinet for the time being, the fullest value in rare insects; or money if he choose to accept it; and afterwards occasional duplicates of scarce Insects, which will continue to be collected, both by purchase and personal industry; to answer the claims of such *Aurelians* as may hereafter wish to have their names enrolled in the annals of the society.

The above sacrifice of rare or unique species, considering the truly advanced state of the (*a*) *Aurelian Collection* (the most extensive in British Entomology hitherto made) can seldom be great, and will evidently become less and less.

By these means the Aurelian Cabinet must ultimately arrive at the standard of perfection; and the separate collection of every Member of the Society will gradually increase both in number and value.

The Members will have a right of inspecting the Cabinet as often as they please, either for the purposes of pleasure or instruction.

(*a*) This Cabinet, and all the British Insects it contains, I here pledge myself to give up to the *Aurelian Society*, bonâ fide, and without fee or reward, as soon as the Society shall amount to 20 living Members, in such manner as I shall then explain. *Vide page* xiii. *of the Preface.*

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LEPIDOPTERA
BRITANNICA.

LEPIDOPTERA.

Brunnick Zool. 178. 3.

ALÆ IV imbricatæ squamis minutis; in *Tineis Bombycisformibus* hirtis. An ideo proprii generis insectæ?

OS plerumque *lingua* involuta spirali.

CORPUS plus minusve pilosum.

CHARACTERES GENERUM.

"In *Lepidopteris* necessario adhibendæ sunt *antennæ*, quum genera naturalia hujus classis, difficillime determinantur."
Fabricius.

* *Antennis extrorsum clavato-crassioribus.*

1. PAPILIO. Antennæ versus apicem clavato-capitatæ vel rarius subuncinatæ.

** *Antennis utroque fine attenuatis seu medio crassioribus.*

2. SPHINX. *Antennæ* utroque fine attenuatæ. In *Legitimis* alæ opacæ. Abdomen acutum et vix barbatum. In *Sesiis* alæ sæpissime fenestratæ. Abdomen obtusum et valde barbatum.

3. ZYGÆNA. *Antennæ* medio crassiores. Alæ opacæ. Abdomen uniforme cylindraceum apice vix barbato. Larva obesa.

*** *Antennis basi ad apicem sensim attenuatis, seu basi paulo crassioribus.*

4. BOMBYX. *Antennæ* masculinæ plerumque valde pectinatæ. Corpus sæpissime crassum. Larva grossa sæpius hirta.

5. NOCTUA. *Antennæ* omnino setaceæ, vel in lente rarius minutissime serratæ. Abdomen sæpissime crassum. Larva grossa sæpe nuda.

6. HEPIALUS. *Antennæ* thorace breviores. Alæ omnes sublanceolatæ. Larva grossa subterranea.

7. GEOMETRA. *Antennæ* masculinæ plerumque valde pectinatæ. Abdomen sæpissime gracile. Larva semper gracilis et geometra.

8. PHALÆNA. *Antennæ* omnino setaceæ, vel in lente rarius minutissime serratæ. Abdomen semper gracile. Larva semper gracilis et geometra.

9. PYRALIS. *Antennæ* masculinæ setaceæ, vel rarius pectinatæ. Abdomen semper gracile. Larva gracilis non geometra.

10. TORTRIX. *Antennæ* semper setaceæ. Statura semper parva, et pro ratione magnitudinis robustula. Alæ apice rotundatæ vel retusæ.

11. TINEA. *Antennæ* (*Bombycinis* exceptis) setaceæ. Statura semper parva et gracilis. Alæ rarius apice rotundatæ, sæpius acutæ et convolutæ et profunde ciliatæ.

12. ALUCITA. *Antennæ* semper setaceæ. Alæ inferiores semper fissæ. Corpus et pedes gracillimæ elongati.

1. PAPILIO.

Fab. Gen. Ins. 138.
Yates's Genera, 127.

Antennæ versus apicem clavato-capitatæ, in sectione ultima plus minusve uncinatæ.

Alæ (sedentis) erectæ sursumque conniventes, in sectione ultima divaricatæ, volatu in omnibus diurno, radiis solaribus.

Corpus gracile, in mare plus minusve cylindricum apice vix barbato—femina paulo crassior et sæpe cylindrico-ovata, apice imberbi acutiusculo; in sectione ultima semper paulo robustior.

* EQUITES ACHIVI (*Swallow-tails*). *Alis anticis ab angulo postico ad apicem longioribus quam ad basin; posticis ocello ad angulum ani utrinque.*

** PARNASSII (*Black-veins*). *Alis rotundatis denudatis.*

*** DANAI CANDIDI. *Alis integerrimis albis flavis fulvisve.*

† ALBÆ (*Whites*). *Alis anticis postice rotundatis albis.*

†† FLAVÆ (*Clouded Yellows*). *Alis anticis postice oblique truncatis: posticis subtus annulo ferrugineo. Antennis abbreviatis ferrugineis.*

††† SULPHUREÆ (*Brimstones*). *Alis omnibus angulatis annulo ferrugineo subtus. Antennis abbreviatis.*

**** DANAI FESTIVI (*Ringlets*). *Alis integerrimis, et in speciebus Britannicis ocellatis.*

***** (*a*) NYMPHALES GEMMATI (*Ocellated*). *Alis præcipue posticis dentatis et ocellatis.*

****** Nym-

(*a*) *Obs.* The Nymphales Gemmati and Phalerati are so closely allied in some instances as to create a difficulty in separating them: e. g. Pap. Atalanta is to the full as much an *ocellated* species as it is an *inocellated* one; nevertheless it is placed by Linnæus and others amongst the Phalerati, which ought to be *inocellated*. The most natural mode, if not the most convenient, of arranging the British Nymphales would be from the outline

****** NYMPHALES PHALERATI (*Inocellated*). *Alis præcipue posticis dentatis inocellatis, subinde angulato-laciniatis.*

† Laciniatæ (*Scolloped*). *Alis angulato-laciniatis, posticis subtus tristioribus. Antennis mediocribus.*

†† Dentatæ (*Dentated*). *Alis dentatis subtus minus tristibus quam in ultimis. Antennis mediocribus.*

††† Fritillariæ (*Fritillaries*). *Alis omnibus supra fulvis nigro plus minusve subtessellatis, posticis subtus argenteo vel albo vel albido eleganter ornatis. Clava antennarum uniformi magna.*

+ Argenteæ (*Silver-spotted*). *Alis posticis subtus maculis argenteis.*

++ Albicantes (*Buff-spotted*). *Alis posticis subtus maculis albis albidis vel subflavis.*

******* PLEBEII RURALES. *Statura in hoc genere parva. Alis anticis integris maculis opacis.*

† Caudatæ (*Hair-streaks*). *Alis posticis emarginato-caudatis, omnibus subtus striga pallida.*

†† Cupreæ (*Coppers*). *Alis posticis ad angulum ani plus minusve emarginatis, omnibus supra igneo-cupreis, subtus punctis numerosis subocellaribus.*

††† Cœruleæ (*Blues or Arguses*). *Alis integerrimis rotundatis, masculinis cœruleis (exceptis Idâ et Artaxerxe), femineis fuscis seu fusco-cœruleis, subtus punctis subocellaribus ut in præcedentibus.*

+ Multipunctatæ (*Many-spotted*). *Alis anticis subtus strigis plurimis punctorum.*

++ Paucipunctatæ (*Small-spotted*). *Alis anticis subtus striga unica punctorum.*

******** PLEBEII URBICOLI (*Skippers and Grizzles*). *Statura parva. Alis divaricatis integerrimis, posticis sæpe maculis subpellucidis. Antennis apice plus minusve uncinatis. Corpore (pro ratione magnitudinis) robustiore quam in præcedentibus.*

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line formed by their wings; paying no regard to their being ocellated or not, as follows: 1. *alis angulato-laciniatis.* 2. *alis dentatis;* and subdivide *ad colorem.*

CHARAC-

CHARACTERES SPECIERUM.

* EQUITES ACHIVI (*Swallow tails*). *Alis anticis ab angulo postico ad apicem longioribus quam ad basin; posticis ocello ad angulum ani utrinque.*

P. E. A. (the Swallow-tail) alis caudatis concoloribus flavis, limbo fusco lunulis flavis, angulo ani fulvo. *Machaon.* 1.

Linn. Faun. Suec. 1031.—*Linn. Syst. Nat. tom.* 2. 750. 33.—*Gmel. Syst. Nat. tom.* 1. *p.* 2238.—*Turt. Syst. Nat. p.* 19.—*Vill. Entom.* 2. *p.* 3.—*Fab. Ent. Syst. tom.* 3. *p.* 30. 87.—*Fab. Syst. Ent.* 452. 42.—*Fab. Mantis.* 2. 9. 77.—*Fab. Sp. Ins.* 2. 17. 67.—*Lewin's Pap. pl.* 34.—*Donov. Br. Ins. pl.* 211.—*Harris Aur. t.* 36.—*Wilks, pl.* 93.—*Hübner Schmet. pl.* 77. 390. 391.—*Pet. Pap. t.* 2. *f.* 5.—*Barb. Gen. Ins. pl.* 10. *f.* 33.—*Roesel. Ins. cl.* 2. *t.* 1.—*Esper Schmet. t.* 1. *f.* 1.—*Seba Thes.* 4. 32. *f.* 9. 10. *et* 4. 59. *f.* 12. 13.—*Raj. Ins.* 110. 1.—*Sepp's Ins. vol.* 1. 2. *t.* 3.—*Berk. Syn.* 1. 123. 1.—*Schæf. Icon. t.* 45. *f.* 1. 2.—*P. Machaon Panz. Faun. Germ.....*—*Faun. Ingr.* 201. 610.—*P. Reginæ De Geer Gen. Ins.* 30. 5.—*Merian Eruc. pars* 1. *pl.* 38.—*Scopol. Carn.* 444.—*Müll. Zool. Dan.* 1289.—*Nat. Misc. v.* 12. *pl.* 398.—*Ent. Paris.* 241. 33.—*Forster's Cat. p.* 10. 463.—*Mouf. Ins.* 99. *fig. sup.*

HABITAT *Larva* in plantis umbelliferis; Julio et Sept. *Imago* f. Mai. et i. Aug. umbelliferetis, satis infrequens.

EXPANSIO alarum 3 unc. 7 lin.

DESCRIPTIO. *Larva* lævis, viridis cingulis nigris alternis, ferrugineo punctatis. Caput tentaculis 2. *Vill. Ent.* 2. *p.* 3.

PUPPA flavescens. *Fab.*

IMAGO. *Alæ anticæ* flavæ, venis dilatatis, maculis 3 costalibus, costa ipsa, fasciisque duabus latis nigris luteo subirroratis; prima basi subtriangulari, secunda postica seu marginali in qua lunulæ 8 flavæ, margine ipso lutescente. *Alæ posticæ* dentatæ unicaudatæ flavæ, venis dilatatis, fasciisque duabus nigris; prima ad latus interius dimidiata, secunda lata ad marginem posticum in qua maculæ 6 cœruleæ subocellares, et pone has lunulæ 5 flavæ, margine ipso lutescente. *Alæ omnes subtus* pallidiores, angulo ani fulvo subocellari utrinque. Cauda alæ linearis nigra longitudine semunciali, intus flavo marginato utrinque.

P. E. A. (the scarce Swallow-tail) Alis caudatis concoloribus flavescentibus fasciis nigricantibus geminatis, posticis subtus linea ferruginea. *Podalirius.* 2

Linn.

Linn. Syst. Nat. tom. 2. 751. 36.—*Linn. Mus. Reginæ* 208. 27. —*Gmel. Syst. Nat. tom.* 1. *p.* 2241.—*Turt. Syst. Nat. p.* 16. —*Fab. Ent. Syst. t.* 3. *p.* 24 71.—*Fab. Syst. Ent.* 451.—*Fab. Mantis.* 2. 8. 64.—*Fab. Sp. Ins.* 2. 15. 58.—*Vill. Entom.* 2. 4.—*Berk. Syn.* 1. 123. 2.—*Lewin's Pap. t.* 35.—*Donov. Eng. Ins. pl.* 109.—*Pap. Podalirius Panz. Faun. Germ.*.....—*Müller Lep. Silesiaca*.....—*Hübner Schmet. pl.* 77. 388. 389.—*Pet. Gaz. t.* 133. *f.* 2 —*Esper Schmet. t.* 1. *f.* 2.—*Roesel. Ins. cl.* 2 *t.* 2.—*Seba Thes.* 4. 32. *f.* 11. 12.—*Schæf. Icon. t.* 45. *f.* 3. 4.—*Raj. Ins.* 111. *no.* 3.—*Mouffett's Ins.* 99. *f.* 3.—*Forster's Cat. p.* 10. 404.—*Martyn's Vade Mecum, no.* 36. *article Cabbage.*—*P. flammeus Ent. Paris.* 242. 24.—*Merian Eruc. pars* 2. *pl.* 44.

HABITAT in sylvaticis rarissima omnium. *Larva* Mai.? *Imago* i. Aug.?

EXPANSIO alarum 3 unc. 6 lin.

DESCRIPTIO. *Alæ anticæ* flavescentes, costa, margine exteriore fasciisque 6 nigris; quarum 3 et 5 abbreviatæ sunt, 4 et 6 cineritiæ aliquot divisæ. *Posticæ* dentatæ unicaudatæ utrinque flavescentes, *supra* strigis 2, una ad latus interius latiora, altera in media, *subtus* strigis circiter 4 nigris; quarum 2 et 4 subgeminatæ, utrinque margine postico nigricante, lunulis 4 cœruleis; lunula ani præterea ocellaris fulvo vel flavo late cincta: cauda alæ linearis nigra, intus et apice flavo marginata, ala dimidia brevior.

LARVA solitaria flavescens fusco punctata capite pallide virescente. *Fab.*

PUPPA flavescens, fusco punctata, antice bidentata. *Fab.*

OBS. Exemplarium absolute Britannicum nunquam vidi. Locus in Lepidopterâ Britannicâ authoritatibus Berkenhouti et Raii (quæ ultima satis ambigua est) præcipue pendet.

** PARNASSII. (*Black-veins*). *Alis rotundatis denudatis.*

Cratægi. 3. P. P. (The black-veined White) Alis integerrimis rotundatis albis venis nigris.

Linn. Faun. Suec. 1034.—*Linn. Syst. Nat. tom.* 2. *p.* 758. 72.—*Gmel. Syst. Nat. t.* 1. 2257.—*Turt. Syst. Nat. p.* 53.—*Fab. Ent. Syst. tom.* 3. 182. 563.—*Fab. Syst. Ent.* 466. 101.—*Fab. Mantis.* 2. 17. 171.—*Fab. Sp. Ins.* 2. 35. 149.—*Vill. Ent.* 2. 7.—*Hübners Schmet. pl* 79. 399. 400.—*Harris Aur. t.* 9 *i. k d. e.*—*Scopol. Carn.* 448.—*Barb. Gen. pl.* 10. *f.* 72. —*Müll. Zool. Dan.* 1312.—*Raj. Ins.* 115. *no.* 5.—*Pet. Mus.* 301.—*Pet. Pap. t.* 1. *f.* 1. 2.—*Faun. Ingr.* 206. 627.—

Schæf.

Schæf. Icon. 140. *f.* 2. 3.—*Merian Eruc. pars* 2. *pl.* 25.—*Berk. Syn.* 1. 124. 3.—*Roes. Ins. cl.* 2. *t.* 3.—*Wilks, pl.* 95.—*Esper Schmet. t.* 2. *f.* 3.—*Lewin's Pap. pl.* 24.—*Merret's Pinax*, 198. *Pap. diurnus max.* 2?—*Albin's Ins. pl.* 2. *f.* 2.—*Seba Thes.* 4. 2. *H.*—*Panz. Faun. Germ.*. . .—*Pap. Cratægi. Ent. Paris*, 248. 43.—*P. nigro-venosus De Geer Gen. Ins.* 30. 2.

HABITAT *Larva* in Cratægo et Grossularia tempore vernali. *Imago* in hortis et peridumetis satis infrequens.

EXPANSIO alarum 2 unc. 10 lin.

DESCRIPTIO. *Alæ omnes* utrinque albæ marginibus venisque nigris. *Anticæ* supra maculis circiter 6 parvis triangularibus nigricantibus ad marginem posticum.

LARVA labyrinthiformis. *Faun. Suec.* 1034.

PUPPA flava punctis maculisque numerosis nigris.

*** DANAI CANDIDI. *Alis integerrimis albis flavis fulvisve.*

† ALBÆ (*Whites*). *Alis anticis postice rotundatis albis.*

P. D. C. (The large White) Alis albis; *maris*, apicibus nigris; *feminæ*, apicibus, maculis duabus lituraque nigris. *Brassicæ.* 4.

Linn. Faun. Suec. 1035.—*Linn. Syst. Nat. tom.* 2. *p.* 759. 75.—*Gmel. Syst. Nat. tom.* 1. 2259.—*Turt. Syst. Nat. p.* 64.—*Fab. Ent. Syst.* 463. 110.—*Fab. Syst. Ent.* 3. 186. 57.—*Fab. Mant.* 2. 18. 183.—*Fab. Sp. Ins.* 2. 38. 161.—*Vill. Ent.* 2. *p.* 8.—*Berk. Syn.* 1. 124. 4.—*Faun. Ingr.* 206. 678.—*Scop. Carn.* 450.—*Müll. Zool. Dan.* 1313.—*Hüb. Schmet. pl.* 80. 401-3.—*Lewin's Pap. pl.* 25.—*Wilks, pl.* 96.—*Albin's Ins. pl.* 1.—*Roes. Ins. cl.* 2. *t.* 4.—*Sepp. Ins. v.* 1. 2. *t.* 2.—*Esper Schmet. t.* 3. *f.* 1.—*Goed. Ins.* 1. *pl.* 11.—*List. Goed. fig.* 7.—*Mouf. Ins.* 189. *f.* 1. *Larva.*—*Schæf. Ic.* 40. *f.* 3. 4. *Fem. et* 140. *f.* 4. 5. *Mas.*—*Raj. Ins.* 113. 1.—*Pet. Gaz. t.* 62. *fig.* 3. *Femina.*—*Swam. Hist. Ins.* 205. *t.* 13. *cum Larv. et Pup.*—*Hill's Swam. tab.* 37.—*Ent. Paris.* 247. 40.—*Papilio diurnus max. maxima parte flavescens, reliqua pene nigricans. Merr. Pinax*, 198.—*Pet. Pap.* 1. *f.* 3. 4. *Mas.* 5. 6. *Fem.*—*Merian Eruc. pars* 1, *pl.* 45.—*Seba Thes.* 4. 2. *F.*

HABITAT *Larva* in Brassicis hortorum tempore æstate, nimis frequens. *Imago* fere passim m. Mai. et m. Aug.

EXPANSIO alarum 2 unc. 11 lin.

DESCRIPTIO. *Larva* solitaria cinerea nigro punctata, lineaque tribus sulphureis cauda nigra. *Fab.*

PUPPA

PUPPA pallide virescens lineis tribus flavis segmentisque tribus globosis. *Fab.*

IMAGO. *Alæ supra* albæ, *anticæ maris* apice nigris; *feminæ* apice, maculis 2 pone medium rotundis, maculaque claviformi ad marginem tenuiorem nigris. *Alæ posticæ* in *utraque sexu* albæ, macula costali pone medium nigra. *Anticæ subtus* in *utraque sexu* albæ, basi sæpe cinerascentes, apicibus flavicantibus, maculisque duabus rotundis pone medium nigris. *Posticæ subtus* in utraque sexu, pallide flavæ, macula pone medium obsoleta, atomisque nigricantibus undique sparsis.

OBS. The larvæ of this, the preceding, and the following species, multiply so much in dry seasons as to make great havoc amongst our cabbages, &c. Small birds destroy incredible numbers of them as food, and should be encouraged. I once observed a Titmouse (Parus major) take five or six large ones to its nest in a very few minutes. In inclosed gardens Sea-gulls, with their wings cut, are of infinite service. I had one eight years, which was at last killed by accident, that lived entirely all the while upon the insects, slugs, and worms he found in the garden. Poultry of any sort will soon clear a small piece of ground; but, unless they are of the web-footed kind, they do much damage by scratching the earth.

Rapæ. 5. P. D. C. (The small White) Alis albis, *maris*, apicibus maculaque nigricantibus; *feminæ*, apicibus, maculis duabus liturague nigris.

Linn. Faun. Suec. 1036.—*Linn. Syst. Nat. tom.* 2. *p.* 759. 76.—*Gmel. Syst. Nat. tom.* 1. 2260.—*Turt. Syst. Nat. p.* 64.—*Fab. Ent. Syst.* 3. 186. 575.—*Fab. Syst. Ent.* 469. 11.—*Fab. Mantis.* 2. 18. 184.—*Fab. Spec. Ins.* 239. 162.—*Vill. Ent.* 2. *p.* 9.—*Hüb. Schmet. pl.* 80. 404. 5.—*Encyc. Paris.* 248. 41.—*Scop. Carn.* 451.—*Müll. Zool. Dan.* 1314.—*Faun. Ingr.* 206. 629.—*Berk. Syn.* 1. 124. 5.—*Wilks, pl.* 97.—*Lewin's Pap. pl.* 26.—*Albin's Ins.* 51.—*Pet. Pap.* 1. *f.* 7. 8. *Mas.* 9—14. *Fem.*—*Roesel. Ins. cl.* 2. *t.* 5.—*Aumiral. t.* 16. *fig. dextra.*—*Sepp. Ins. v.* 1. 2. *t.* 4.—*Goed. Ins.* 1. 27.—*Merian Eruc. pars* 2. *pl.* 39.—*Esper Schmet. t.* 3. *f.* 2.—*List. Goed. f.* 8.—*Raj. Ins.* 114. 2.—*Seba Thes.* 4. 2. *B.*—*Merret's Pinax, Papilio diurnus medius ex pallido flavescens*, 198. 1.

HABITAT passim; frequentissimus in hortis, ubi Larva cum Larvis præcedentis et sequentis Brassicas male devastat per totam æstatem. *Imago* præcipue m. Mai. et m. Aug.

EXPANSIO alarum 2 unc. 2 lin.

PUPPA DESCRIPTIO.

DESCRIPTIO. *Larva* viridis, linea dorsali æneâ, lateribusque æneo punctatis. *Fab.*

PUPPA gibba virescens lineis tribus sulphureis. *Fab.*

IMAGO. Præcedenti simillima, attamen distincta; differt magnitudine duplo minore, et alia larva. Maculâ apicis variat, tunc nigrâ, tunc nigricante, et subinde cinereâ sed semper magis costali quam in præcedente; ad quam in cæteris omnino convenit.

P. D. C. (The green-veined White) Alis albis subtus venis dilatatis virescentibus. *Napi.* 6.

Linn. Faun. Suec 1037.—*Linn. Syst. Nat. tom.* 2. *p.* 760. 7.—*Gmel. Syst. Nat. tom.* 1. 2260.—*Turt. Syst. Nat p.* 65.—*Fab. Ent. Syst.* 3. 187. 576.—*Fab. Syst. Ent* 469. 112.—*Fab. Mant.* 2. 18. 185.—*Fab. Spec. Ins.* 2. 39. 163.—*Villars Ent.* 2. *p.* 10.—*Admiral. t.* 1. *fig.* 2. *sinistra.*—*Ent. Paris.* 248. 42.—*Scop. Carn.* 453.—*Sepp. Ins.* 2. 1. 2. *t.* 1.—*Wilks, pl.* 98.—*Müll. Zool. Dan.* 131.—*Raj. Ins.* 114 3.—*Pet. Pap. t.* 19. 20. *Fem.*—*Pet. Mus.* 302.—*Faun Ingr.* 206. 630.—*Berk. Syn.* 1. 124. 6.—*Lewin's Pap. pl* 7.—*Albin's Ins. t.* 52. *f. g.*—*Esper Schmet. t.* 3. *f.* 3.—*Donov. Brit. Ins. pl.* 280. *f.* 1. *Fem.*—*Pet. Gaz. t.* 61. *fig.* 1. *Mas. et t.* 62. *f.* 3. *Fem.*—*Pap. diurnus medius capite lisque lacteis quibus maculæ fuscæ et nigricantes. Merr. Pinax,* 198. 9

HABITAT *Larva* in Brassicis, æstate; *Imago* præcipue m. Mai. et i. Jul. in hortis et peridumetis valde frequens.

EXPANSIO alarum 2 unc. 1 lin.

DESCRIPTIO. Præcedenti simillima, magnitudine et characteribus, sed abunde differt venis (præcipue alarum posticarum) dilatato-virescentibus.

α. *Alæ anticæ maris*, albæ macula postica apiceque late nigris; *feminæ*, maculis duabus posticis apiceque nigris. *Subtus* (utraque sexu) venis vix virentibus: *posticæ* venis virescentibus basi tantum dilatatis.

β. *Hüb. Schmet. pl.* 8. 406. 407.—*Pet. Pap. t.* 1. 17. 18. *Mas.* 15. 16. *Fem. Alæ anticæ maris*, albæ immaculatæ, apice tenue nigra: *feminæ* ut in α, sed basi venisque magis cinereis apice albicante. Venæ (utraque sexu) undique magis dilatatæ quam in α. Alæ inferiores in utraque variant; subinde albidæ, subinde flavæ seu flavicantes.

P. D. C. (The Wood White) Alis albis, apice maris fuscescente. *Sinapis.* 7.

Linn. Faun. Suec. 1038.—*Linn. Syst. Nat tom.* 2. *p.* 760. 9.—*Gmel. Syst. Nat.* 1. 2261.—*Turt. Syst. Nat. p.* 65.—*Fab. Ent.*

Ent. Syst. 3. 187. 577.—*Fab. Syst. Ent.* 470. 14.—*Fab. Mant.* 2. 18. 186.—*Fab. Sp. Ins.* 2. 40 164.—*Vill. Ent.* 2. *p.* 11.—*Hüb. Schmet. pl.* 82. 410-11.—*Pap. Sinapis Panz. Faun. Germ.*....—*Faun. Ingr.* 207. 631.—*Scopol. Carn.* 452.—*Müll. Zool. Dan.* 1316.—*Lewin's Pap. pl.* 29. *f.* 4. 5.—*Harris Aur. t.* 29. *u. t.*—*Esper Schmet. t.* 3. *f.* 4.—*Donov. Brit. Ins.* 280. 2. *Mas.*—*De Geer Ins. tom.* 2. *pl.* 1. *f.* 1.—*Schæf. Icon.* 97. *f.* 8. 9. 10. 11.—*P. candidus De Geer Gen. Ins.* 30. 6.—*Raj. Ins.* 116. 8.—*Pet. Pap. t.* 1. *f.* 21-24.—*Pet. Mus.* 303.—*Merrett's Pinax*, 199. 12?

HABITAT *Larva* in Sinapi. *Imago* m. Mai. et i. Aug. satis infrequens.

EXPANSIO alarum 1 unc. 8 lin.

DESCRIPTIO. Imago. *Alæ omnes supra* albæ basi cinerascentes, macula magna rotunda ad apicem fuscescente, sed apex ipse albicat. *Posticæ* subtus fasciis obsoletissimis cinerascentibus. *Femina* macula apicis caret.

Daplidice. 8. P. D. C. (The green-chequered White) Alis albis marginibus fuscis, subtus luteo-griseis albo maculatis.

* *Linn. Syst. Nat. tom.* 2. *p.* 760. 81.—*Gmel. Syst. Nat. t.* 1. 2263.—*Turt. Syst. Nat. p.* 67.—*Fab. Ent. Syst.* 3. 191. 593.—*Fab. Syst. Ent.* 471. 122.—*Fab. Mant.* 2. 19. 197.—*Fab. Sp. Ins.* 41. 174.—*Vill. Ent.* 2. *p.* 11.—*Hüb. Schmet. pl.* 82. 414-15.—*Faun. Ingr.* 207. 632.—*Pap. Daplidice Panz. Faun. Germ.*....—*Lewin's Pap. pl.* 28.—*Donov. Br. Ins. pl.* 200.—*Cramer. Pap. pl.* 397. *f. A. B.*—*Schæf. Ic.* 79. *f.* 2. 3.—*Esper Schmet. t.* 3. *f.* 5.—*Meerburg. Plant. Rar. t.* 36.—*Raj. Ins.* 116. *no.* 10.—*Seba Thes.* 4. 2. *A. et.* 4. 59. *f.* 16. 17.—*Pet. Gaz. tab.* 1. *f.* 7. *F.*—*Pet. Pap. t.* 2. *f.* 8. *Mas. f.* 9. *Fem.*—*Pet. Mus.* 304.

HABITAT in Anglia *Imago* Apr. et Aug. rarissime: prope Cantabrigiam D. Vernon in Raj. Ins. l. c.——et etiam prope Hampstead. *Pet.* l. c.

EXPANSIO alarum 1 unc. 10 lin.

DESCRIPTIO. Statura P. Cardamines, sed paulo major. Alæ primores albæ; maculæ duæ fuscæ in disco utrinque feminæ, at mari una supra; apices fusci maculis albis nonnullis sparsis; subtus concolores, sed loco nigredinis virescentes. Posticæ mari supra albæ immaculatæ; feminæ limbo fuscescente et albo maculato. Subtus albæ, virescente maculatæ. *Villars.* l. c.

OBS. Locus hujus speciei in Lepidoptera Britannica authoritate D. Vernon optime pendet; ut dixerunt Cel. Petiverus et Rajus l. c.

P. D. C.

P. D. C. (The Orange Tip) Alis albis puncto medio apiceque nigris; maris, macula fulva, posticis subtus viridi marmoratis. *Cardamines.* 9.

Linn. Faun. Suec. 1039.—*Linn. Syst. Nat. tom.* 2. *p.* 761. 85.—*Gmel. Syst. Nat. t.* 1. 2264.—*Turt. Syst. Nat. p.* 67.—*Fab. Ent. Syst.* 3. 193. 600.—*Fab. Syst. Ent.* 472. 126.—*Fab. Mant.* 2. 20. 203.—*Fab. Sp. Ins.* 43. 179.—*Ent. Paris.* 249. 44.—*Scop. Carn.* 454.—*Hüb. Schmet. pl.* 83. 419-20. *Fem. pl.* 84. 424-5. *Mas.*—*Müll. Zool. Dan.* 1317.—*Faun. Ingr.* 207. 633.—*Berk. Syn.* 1. 24. 7.—*P. Cardamines Panz. Faun. Germ.* . . . .—*Vill. Ent. v.* 2. *p.* 12.—*Lewin's Pap. pl.* 30.—*Harris Aur. t.* 22. *b. Mas. g. Fem.*—*Wilks, pl.* 99.—*Donov. Br. Ins. pl.* 169. *Schæf. Ic. t.* 91. *f.* 1. 2. *Mas.* 3. *Fem.*—*Esper Schmet. t.* 4. *f.* 1. *et t.* 27. *f.* 2.—*Roes. Ins. cl.* 2. *t.* 8.—*Seba Thes.* 4. 59. *f.* 14. 15. *et* 4. 2. *D. Femina, et* 4. 2. *F. Mas.*—*Raj. Ins.* 115. *no.* 6. 7.—*Pet. Pap. t.* 2. *f.* 6. *Mas.* 7. *Fem.*—*Pet. Mus.* 306. *Mas.* 305. *Femina.*

Habitat *Larva* in Cardamine pratense. *Imago* f. Mai. Sepimentis satis frequens.

Expansio alarum 1 unc. 11 lin.

Descriptio. Larva solitaria supra virens, subtus albicans. *Fab.*

Pupa viridis, linea utrinque laterali alba, thorace conico adscendente. *Fab.*

Imago. *Alæ anticæ* maris albæ; basi, puncto centrali, apiceque nigricantibus: maculaque magna postica fulvo-crocea utrinque: *posticæ* albæ punctis ad marginem ciliarem 7. *subtus* viridi marmoratis. *Feminæ, alæ omnes* utrinque ut in mare, sed apex magis nigrescit et macula fulvo-crocea omnino deest.

β *Mas*, macula fulvo-crocea supra fere obliterata.

†† Flavæ (*Clouded Yellows*). *Alis anticis postice oblique truncatis: posticis subtus annulo ferrugineo. Antennis abbreviatis ferrugineis.*

P. D. C. (The clouded Yellow) Alis fulvo-croceis macula margineque nigris: subtus virescentibus, anticis puncto nigro, posticis argenteo sesquialtero. *Edusa.* 10.

Fab. Mantis. 240.—*Fab. Ent. Syst.* 3. 206. 643.—*Gmel. Syst. Nat.* 1. 2269.—*Turt. Syst. Nat. p.* 73.—*Vill. Ent.* 4. 425.—*Pap. croceus A. Ent. Paris. p.* 250. *Fem. et B. Mas.*—*Pap. Electra Lewin's Pap. pl.* 32.—*Pap. Hyale Hüb. Schmet. pl.* 81. 429-31.—*Pap. Hyale Donov. Br. Ins. pl.* 43. *Mas; et P. Edusa pl.* 238. 2. *Femina.*—*P. Hyale Scop. Carn.*

Carn. 455.—*Harris Aur. t.* 29. *n. Mas. m. Fem.*—*Roes. Ins. cl.* 2. 4[illegible] *f.* 4. [illegible] *Fem.*—*Seba Thes.* 4. 61. *N.*—*Schæf. Ic.* 149. *f.* 1. 2. 3. —*Esper Schmet. t.* 4. *f.* 3. *Mas*; *et P. Hyale t.* 26. *f.* 3. *Femina.*—*Raj. Ins.* 112. 6. *sed Femina Raii Helice est nobis.*— *Pet. Gaz. t.* 14. *f.* 11. *Femina.*—*Pet. Pap. t.* 2. *f.* 3. *Mas.* 4. *Fem.*

Habitat *Larva* in Gramine. *Imago* nec infrequens certis, sed indeterminatis annis, m. Aug. Femina vivat per hyemem, et ova tempore vernali ponit.

Expansio alarum 2 unc. 4 lin.

Descriptio. *Alæ anticæ* maris *supra* læte fulvæ, puncto magno medio, fimbriaque lata nigris: *subtus* disco pallide fulvo, puncto medio nigro, adjacente altero minore subargenteo; apice late virescente. *Alæ posticæ supra* fulvæ, fimbria nigra tenuiori, macula obsoleta media lætissime fulva, et ad latus interius virescentes: *subtus* itidem virescentes macula media subocellari argentea sesquialtera iride subferruginea. Femina a mare discrepat *supra* serie macularum flavarum in fimbria nigra; et *subtus* maculis posticis nigris circiter 3, punctisque duobus posticis costalibus, in alis anticis; et serie postica punctorum ferrugineorum obsoleta in alis posticis.

Helice. 11. P. D. C. (The white clouded Yellow) Alis albis fimbria punctoque nigris, anticis subtus disco albo, posticis subflavis ocello sesquialtero argenteo.

Pap. Helice Hüb. Schmet. 87. 440-1.—*P. Palæno Esper Schmet. t.* 1. *f.* 2. (*nec Palæno Linn.*)—*P. Edusa alba Prod. Lep. Brit. p.* 2. *no.* 13.—*Raj. Ins.* 112. *no.* 6. *Femina.*

Habitat *Imago* in hortis et pratis rarissime, m. Aug.

Expansio alarum 2 unc. 3 lin.

Descriptio. Imago. *Alarum anticarum* discus inæqualiter albus basi paulo nigricante, puncto medio fimbriaque inæquali lata nigris; in fimbria macula una alterave alba: *subtus* fere ut in femina præcedentis sed disco albo nec fulvo. *Alæ posticæ supra* cinereo-albæ, macula media fulva fimbriaque nigra, in qua ad latus interius macula una alterave alba obsoleta: *subtus* fere ut in femina præcedentis sed magis flavescentes. Hæc descriptio ex specimine præclaro capto a me in hortulo meo.

Obs. Having at length found five perfect specimens of this fine Papilio, in five different cabinets (all of which were taken in England, and agree exactly with each other in every respect), I now give it as a distinct species, and not as a variety of Edusa only, which it has hitherto in this country been conceived to be. And in this I have the happiness to be supported by the

elegant work of Hübner, above cited, whose denomination of this species, *Helice*, I have with due deference preserved; though previous to the possession of that author's Schmet. I had determined it to be distinct, and in my MS. as in the Prodromus, called it Edusa alba.

P. D. C. (The clouded Sulphur) Alis flavis puncto fimbriaque nigris, subtus flavicantibus, anticis puncto nigro, posticis argenteo sesquialtero. *Europome.* 12. ♂

Pap. Europome alis integerrimis rotundatis flavescentibus, supra fimbria latissima fusca, subtus dilute viridi, singulis utrinque puncto latiori. Vill. Ent. 2. 17. 19. *et* 4. 408. 19? *An species? An P. Palæno varietas Vill. l. c.?*

HABITAT in Anglia, rarissima. D. Francillon et D. Swainson.

EXPANSIO alarum 2 unc. 3 lin.

DESCRIPTIO. (Ex exemplario Germanico.) *Alæ omnes supra* sulphureo-flavæ, margine postico late nigro: puncto disci superiorum nigro, inferiorum obsolete fulvo. *Alæ anticæ subtus* albicantes puncto disci albo iride nigra, ordineque postico punctorum obsoletorum: *posticæ subtus* ut in præcedente at minus virescentes.

P. D. C. (The pale clouded Yellow) Alis flavicantibus puncto fimbriaque maculata nigris, anticis subtus puncto nigro, posticis argenteo sesquialtero. *Hyale.* 13. ♂

Linn. Faun. Suec. 1040.—*Linn. Syst. Nat. tom.* 2. *p.* 764. 100. —*Gmel. Syst. Nat.* 1. 2270.—*Turt. Syst. Nat. p.* 74.—*Fab. Ent. Syst.* 3. 207. 649.—*Fab. Syst. Ent.* 477. 148.—*Fab. Mant.* 2. 23. 242.—*Fab. Sp. Ins.* 48. 211. *Vill. Entom.* 2. 15. 16.—*P. Palæno Hüb. Schmet. pl.* 87. 438-9.—*Berk. Syn.* 124. 8.—*Pap. croceus C. Ent. Paris. p.* 250.—*P. Hyale Panz. Faun. Germ.....—Lewin's Pap. pl.* 33. 1. 2.—*Donov. Br. Ins.* 238. 1. *Mas.*—*P. Hyale Donov. pl.* 43. *Edusa mas est, ut supra diximus.*—*Schæf. Ic.* 109. 4. 5.—*Raj. Ins.* 112. 6.

HABITAT *Larva* in Gramine, Jul. *Imago* m. Aug. Pratis, at rarissime.

EXPANSIO alarum 2 unc. 2 lin.

DESCRIPTIO. Larva holosericea viridis; linea laterali alba, flavo punctata. *Fab.*

PUPPA viridis, linea laterali flava. *Fab.*

IMAGO. Simillima præcedenti at minus flava, vel sulphurea. Apex alarum niger, flavo maculatus, nec totus niger ut in præcedente. Margo alarum posticarum minus nigricat. *Femina* pallidior quam mas, ut in affinibus hujus divisionis.

β. Alis

β. Alis in mare albidis, in femina albis, cæteris ut in α. *Lewin's Pap.* 33. 3. 4.

††† SULPHUREÆ (Brimstones.) *Alis omnibus angulatis, subtus annulo ferrugineo. Antennis abbreviatis.*

Rhamni. 14. P. D. C. (The Brimstone) Alis sulphureis singulis puncto flavo supra, subtus ferrugineo.

Linn. Faun. Suec. 1042.—*Linn. Syst. Nat. tom.* 2. *p.* 765. 106.—*Gmel. Syst. Nat.* 1. 2272.—*Turt. Syst. Nat. p.* 76.—*Fab. Ent. Syst.* 3. 211. 661.—*Fab. Syst. Ent.* 478. 155.—*Fab. Mant.* 2. 24. 253.—*Fab. Sp. Ins.* 50. 220.—*Villars Ent.* 2. *p.* 16.—*Hüb. Schmet. pl.* 88. 442-4.—*Ent. Paris.* 249. 47.—*Berk. Syn.* 1. 125. 9.—*Scop. Carn.* 456.—*Müll. Zool. Dan.* 1290.—*Faun. Ingr.* 207. 634.—*P. Rhamni Panz. Faun. Germ.....*—*Lewin's Pap. pl.* 31.—*Donov. Ins. pl.* 145.—*Wilks, pl.* 94.—*P. canicularis De Geer Gen. Ins.* 30. 1.—*Albin's Ins. t.* 2. *f.* 3.—*Esper Schmet. t.* 4. *f.* 4.—*Schæf. Ic. t.* 35. *f.* 1. 2. 3.—*Roes. Ins. cl.* 1. *t.* 2. *f.* 1. 2. 3.—*Seba Thes.* 4. 2. *G.*—*Raj. Ins.* 112. 4.—*Pet. Pap. t.* 2. *f.* 1. *Mas.* 2. *Fem.*—*Barb. Gen. pl.* 10. *f.* 106.—*Merrett's Pinax,* 198. 5. *Femina?*

HABITAT *Larva* in Rhamno. *Imago* i. Jun. Sylvis frequens. Mas et Fem. vivant per hyemem. Femina ova ponit tempore vernali.

EXPANSIO alarum 2 unc. 6 lin.

DESCRIPTIO. Alæ omnes angulatæ marginibus utraque obsoletis ferrugineo punctatis, sed præcipue ad costam: subtus virescentes. Femina a mare discrepat, alis utrinque omnino pallidioribus seu albicantibus.

LARVA lævis viridis linea dorsali obscuriore. *Fab.*

PUPPA gibbosa antice acuminata. *Fab.*

****. DANAI RESTIVI. (*Ringlets.*) *Alis integerrimis, et in speciebus Britannicis ocellatis.*

Hyperanthus. 15. P. D. F. (The Ringlet) Alis fuscis, anticis subtus ocellis tribus, posticis subtus quinque.

Linn. Faun. Suec. 1043.—*Linn. Syst. Nat. tom.* 2. *p.* 768. 127. *Hyperantus.*—*Gmel. Syst. Nat.* 1. 2284.—*Fab. Ent. Syst.* 3. 219. 677.—*Fab. Syst. Ent.* 486. 192.—*Fab. Mant.* 2. 31. 334.—*Fab. Sp. Ins.* 64. 289.—*Vill. Ent.* 2. 18. 25. *t.* 4. *f.* 7.—*Ent. Paris.* 238. 14.—*Berk. Syn.* 1. 125. 10.—*Müll. Zool. Dan.* 1316.—*Faun. Ingr.* 208. 635.—*Lewin's Pap. pl.* 20.

pl. 20.—*Harris Aur. t.* 35. *b.*—*Esper Schmet. t.* 5. *f.* 1.—*Donov. Br. Ins. pl.* 271.—*Sepp. Ins. v.* 1. *t.* 4.—*De Geer Ins. tom.* 2. *pl.* 2. *f.* 9. 10.—*Schæf. Ic.* 127. *f.* 1. 2. *et* 254. *f.* 1. 2. —*Raj. Ins.* 129. *no.* 7.—*Pet. Pap. t.* 5. *f.* 14.—*Seba Thes.* 4. 2. *F.*—*Barb. Gen. Ins. pl.* 10. *f.* 127.—*Admiral. t.* 30. *fig. major.*—*P. Tristan De Geer Gen. Ins.* 33. 21.

Habitat *Larva* in Gramine. *Imago* f. Jun. frequens. Sylvaticis.

Expansio alarum 1 unc. 10 lin.

Descriptio. Larva solitaria villosa cinerea, linea postica nigra, ano bidentato. *Fab.*

Puppa gibba, brunnea, flavo maculato. *Fab.*

Imago. *Alæ anticæ supra* omnino fuscæ vel subinde puncto uno alterove nigro vix ocellato; subtus ocellis posticis 3, infimo minore. *Alæ posticæ supra* punctis 2 subocellatis; *subtus* ocellis 2 connatis pone medium subtus costam; et 3 posticis distinctis; tertia duplo minor versus angulum ani. *Alæ omnes subtus* pallidiores ciliis undique albicantibus.

β. Alis supra et subtus æqualiter ocellatis. *P. Polymeda Hüb. Schmet. pl.* 38. 172-3.—*Pet. Mus.* 313.—*Pet. Pap. t.* 5. *f.* 13.

γ. Alis utraque inocellatis vel punctis obscuris subtus loco ocellorum. *P. Polymeda Hüb. Schmet. pl.* 38. 173*.

P. D. F.. (The small Ringlet) Alis griseis anticis subtus ocellis duobus sesquialtero interjecto, posticis sex sesquialtero fulvo cinctis. *Davus.* 16.

Fab. Ent. Syst. 3. 221. 690?—*Pap. Hero Turt. Syst. Nat. p.* 27.—*Jablonst. Natur. System. tab.* 186. *f.* 3. 4. 5. 6?—*Pap. Hero Lew. Pap. pl.* 23. 5. 6.—*et Pap. Hero Donov. Br. Ins. pl.* 186. *Sed nec vero Hero Linnæi, quæ "alis supra fuscis et subtus striga argentea" gaudet.*—*Pap. Hero Prod. Lep. Brit.* 2. 15.

Habitat in comitatu Lancastriense prope Manchester uliginosis. *Imago* mense Julio. Ex Museo D. Jones.

Expansio alarum 1 unc. 5 lin.

Descriptio. *Alæ anticæ supra* griseæ seu fusco-fulvæ ocellis 2 posticis cæcis: *subtus* griseæ fascia postica albida quæ ad marginem tenuiorem non attingat; inter fasciam et marginem posticum ocelli duo iride nigra pupilla alba, sesquialtero cæco interjecto iride fulva: margo posticus albicat, ciliis fuscescentes. *Alæ posticæ supra* griseæ ciliis albicantibus, ocellis cæcis iride fulvo circiter tres: *subtus* basi fascia lata fusca extus dentata, tunc fascia irregularis albida in media, fuscedine extus terminata; tunc ocelli postici 6, sesquialtero, pupilla

pupilla alba, iride nigra fulvo cincta; tandem fascia obsoleta fuscescens; demum margo albicans ciliisque fuscescentibus.

Polydama. 17. * P. D. F. (The Marsh Ringlet) Alis fulvis, anticis subtus ocellis duobus; posticis 6 albo cinctis quarum 3 dimidiatis.

Pap. Polydama Scop. Carn. 434?

HABITAT rarissime comitatu Eboracense. Semel capta et ad me missa amicissimo meo P. W. Watson. Imago mense Junio Paludosis.

EXPANSIO alarum 1 unc. 7 lin.

DESCRIPTIO. Imago. *Alæ anticæ* griseo-fulvæ ocellis duabus posticis cæcis. *Alæ posticæ* fuscæ sed ad latus interius late albicantes, puncto ocellari cæco parvo postico versus angulum ani. *Subtus anticæ* fulvo-fuscæ, basi nigricantes, apice cinereæ, fascia postica albida abbreviata transversa; inter hanc et marginem posticum ocelli 2 remoti pupilla obsoleta alba, iride nigra albo cincta. *Posticæ* basi fascia lata nigricante extus dentata, fasciola albida irregulari terminata; pone hanc cinereæ; ocellis 6 parvis quarum 3 dimidiatis et fere obliteratis, omnibus circulo albo cinctis.

OBS. Simillima præcedenti magnitudine et staturâ; differt supra magis fulva, subtus magis cinerea; ocelli minores inæquales albo nec fulvo cincti.

Typhon. 18. * P. D. F. (The scarce Heath) Alis supra griseo-fulvis immaculatis, anticis subtus ocello uno alterove, posticis 2-5 obsoletis.

Pap. Typhon Vill. Ent. 2. 76.—*Esper Schmet. t.* 35. *f.* 3. 4.—*Schæf. Ic. t.* 208. *f.* 3. 4?

HABITAT, et bis capta in comitatu Eboracense, et ad me missa, amicissimo meo P. W. Watson, mense Junio paludosis; cum præcedente.

EXPANSIO alarum 1 unc. 7 lin.

DESCRIPTIO. Maris alæ omnes supra griseo-ferrugineæ: *anticæ* puncto postico obsoleto fusco, fulvo cincto. *Subtus, anticæ,* ferrugineæ, fascia abbreviata albida pone medium; tunc ocello postico pupilla alba, iride nigra albido cincta, apiceque cinereo-albicante. *Alæ posticæ subtus,* a basi fere ad medium valde hirtæ fuscescentes, seu certo situ virescentes: tunc striga seu fasciola abbreviata albida: tunc area grisea pone medium, ocellisque 2 obsoletis: demum fascia marginali albicante. Margo alarum omnium utrinque albicat. Femina a mare discrepat, *alis undique* paulo pallidioribus seu magis fulvis; *superioribus supra* impunctatis; sed

cum

cum *inferioribus* certo situ, macula magna pallidiuscula notatis: *subtus* ocello unico sesquialtero: *inferioribus subtus*, ocellis 2, punctisque 3 ocellatis, sine alba pupilla; margine postico magis albicante.

P. D. F. (The small Heath) Alis fulvis, anticis subtus ocello unico, posticis fascia alba punctisque 4 obsoletis. *Pamphilus.* 19.

Linn. Faun. Suec. 1044.—*Linn. Syst. Nat. tom.* 2. *p.* 791. 239.—*Gmel. Syst. Nat.* 1. 2286.—*Fab. Ent. Syst.* 3. 221. 691.—*Fab. Syst. Ent.* 529. 368.—*Fab. Mant.* 2. 33. 348.—*Fab. Sp. Ins.* 66. 300.—*Vill. Ent.* 2. 68. 123.—*Ent. Paris.* 240. 21.—*Faun. Ingr.* 208. 636.—*P. Nephele Hüb. Schmet. pl.* 51. 237-9.—*Müll. Zool. Dan.* 1329.—*Jablonst. Nat. Syst. tab.* 186. *f.* 7. 8.—*Lewin's Pap. pl.* 23. *f.* 3. 4.—*Esper Schmet. t.* 21. *f.* 3.—*Berk. Syn.* 1. 129. 36.—*Schæf. Ic.* 164. *f.* 2. 3.—*De Geer Ins. tom.* 2. *pl.* 2. *f.* 3.—*De Geer Gen. Ins.* 32. 17.—*Raj. Ins.* 125. *no.* 19.—*Pet. Pap. t.* 5. *f.* 15. 16.—*Pet. Mus.* 311.—*Admiral. t.* 25. *fig. minor.*

HABITAT *Larva* in Cynosuro cristato, i. Mai. i. Aug. *Imago* Compascuis i. Jun. i. Sep. frequens.

EXPANSIO alarum 1 unc. 4 lin.

DESCRIPTIO. *Larva* virescens linea dorsali albida, cauda bidentata. *Fab.*

IMAGO. *Alæ omnes supra* fulvæ marginibus utrinque subfuscis, *anticæ* ocello cæco postico obsoleto. *Subtus anticæ* fulvæ, basi apiceque cinereæ, ocelloque majusculo postico, pupilla alba, iride nigra pallido cincta. *Alæ posticæ, subtus* antice fuscæ, postice cinereæ; fasciola abbreviata albida media; ocellisque 4 minutis obliteratis.

***** NYMPHALES GEMMATI. (*The ocellated.*)

Alis præcipue posticis, dentatis et ocellatis.

P. N. G. (The Peacock) Alis angulato-dentatis rubro-fulvis singulis supra ocello cœruleo, anticis maculis duabus costalibus nigris. *Io.* 20.

Linn. Faun. Suec. 1048.—*Linn. Syst. Nat. tom.* 2. *p.* 769. 131.—*Gmel. Syst. Nat.* 1. 2290.—*Turt. Syst. Nat. p.* 90.—*Fab. Ent. Syst.* 388. 276.—*Fab. Syst. Ent.* 489. 203.—*Fab. Mant.* 2. 34. 360.—*Fab. Sp. Ins.* 68. 309.—*Vill.* 2. 21. 30.—*Hüb. Schmet. pl.* 16. 77-8.—*Ent. Paris.* 234. 2.—*Berk. Syn.* 1. 125. 11.—*Faun. Ingr.* 201. 611.—*Müll. Zool. Dan.* 1294.—*Scop. Carn.* 423.—*Lewin's Pap. pl.* 4.—*Donov. Br. Ins.*

Ins. pl. 206.—*Nat. Misc. v.* 10. 388.—*Harris Aur. t.* 8. *f. k.*—*Roes. Ins. cl.* 1. *t.* 3.—*Sepp. Ins. v.* 1. *t.* 7.—*Wilks, pl.* 106.—*Albin's Ins. pl.* 4. 5.—*Merian Eruc. pars* 1. *pl.* 26.—*Barbut Gen. pl.* 10. *f.* 131.—*Esper Schmet. t.* 5. *f.* 2.—*Raj. Ins.* 122. 14.—*Pet. Pap. t.* 5. *f.* 1.—*Seba Thes.* 4. 1. *A. B. et* 4. 32. *f.* 3. 4.—*Schæf. Ic.* 94. *f.* 1. 2.—*Pet. Mus.* 314.—*Goed. Ins. vol.* 1. *pl.* 1.—*List. Goed. f.* 1.—*Mouf. Ins.* 99. *fig. inf.*

HABITAT *Larva* Urtica urente i. Jul. *Imago* m. Jul. Sylvaticis, et per hyemem. Femina tempore vernali ponit ova. Prope Londinum satis frequens, sed in com. Ebor. rariss. seu bis tantum capta.

EXPANSIO alarum 3 unc.

DESCRIPTIO. *Larva* gregaria spinosa atra albo punctata pedibus posticis ferrugineis. *Fab.*

PUPPA decemdentata viridis, aureo punctata postice bifida. *Fab.*

IMAGO. *Alæ anticæ* rubro-fulvæ maculis nigris flavisque costalibus; costæ basi lineolis nigris flavisque; macula magna ocelliformi ad apicem, quæ pro pupilla habet maculam majusculam brunneam, iride antice flava postice cœrulea: demum striga ex punctis 5 cœrulescentibus, quarum 2 sub ocello et 3 in iride ipsa ocelli. *Alæ posticæ* brunneo-fulvæ margine fuscescente; oculo magno postico pupilla magna cœrulea nigro interrupta, iride nigra albo cincta, quæ anterius terminatur in lunula nigra. *Alæ omnes* subtus atro-nebulosæ, *primores* punctis 5 posticis, albidis obsoletis; *secundariæ* unico disci, in medio fascia saturatiori, quæ nigro terminatur.

Iris. 21. P. N. G. (The Purple Emperor) Alis fuscis cœruleo micantibus fascia communi utrinque alba interrupta, posticis supra uniocellatis.

Linn. Syst. Nat. tom. 2. *p.* 775. 161.—*Gmel. Syst. Nat.* 1. 2307.—*Turt. Syst. Nat. p.* 99.—*Fab. Ent. Syst.* 3. 110. 339.—*Fab. Syst. Ent.* 501. 248.—*Fab. Mant.* 2. 46. 460.—*Fab. Sp. Ins.* 86. 382.—*Vill. Ent.* 2. *p.* 33.—*Hüb. Schmet. pl.* 25. 117. 18. *Mas.*—*Berk. Syn.* 1. 126. 18.—*Scop. Carn.* 430.—*Lewin's Pap. pl.* 16.—*Harris Aur. t.* 3. *figuræ superiores.*—*Donov. Br. Ins. pl.* 37. *Mas.*—*Wilks, pl.* 120.—*Esper Schmet. t.* 11. *f.* 1. *Mas.* 11. *f.* 2. *Fem.*—*Schæf. Ic. t.* 152. *f.* 1. 2. 3.—*Raj. Ins.* 126. *no.* 2.—*Pet. Gaz. t.* 23. *fig.* 2.—*Roes. Ins. cl.* 1. *tab.* 42. *fig. omnes.*

HABITAT *Larva* Salice caprea f. Mai. *Imago* Quercisummis, satis infrequens, m. Jul.

EXPANSIO

EXPANSIO alarum 3 unc. 2 lin.

DESCRIPTIO. *Alæ omnes supra* cœrulescenti-nigræ, micantes; *subtus* cinereo-griseæ, cum ocello ferrugineo. *Primores* supra maculis albis sparsis in medio et exterius. Subtus griseo-cinereo variæ maculis albis cum ocello occultato intra marginem exteriorem. *Posticæ supra* fascia alba et ocello ferrugineo versus postica: *subtus* cinereæ fascia alba dentata lateribus ferruginea cum ocello cœruleo iride ferrugineo. *Villars*, l. c.

Femina discrepat a mare, alis supra fuscis albo maculatis non cœruleo micantibus.

OBS. This purple Emperor of the British oaks is not undeservedly the greatest favourite of our English Aurelians. In his manners likewise, as well as in the varying lustres of his purple plumes, he possesses the strongest claims to their particular attention.

In the month of July he makes his appearance in the winged state, and invariably fixes his throne upon the summit of a lofty oak, from the utmost sprigs of which, on sunny days, he performs his aërial excursions; and in these, ascends to a much greater elevation than any other insect I have ever seen, sometimes mounting higher than the eye can follow; especially if he happens to quarrel with *another Emperor*, the monarch of some neighbouring oak: they never meet without a battle, flying upwards all the while, and combating with each other as much as possible; after which they will frequently return again to the identical sprigs from whence they ascended. The wings of this fine species are of a stronger texture than those of any other in Britain, and more calculated for that gay and powerful flight which is so much admired by entomologists. The purple Emperor commences his aërial movements from ten to twelve o'clock in the morning, but does not perform his loftiest flights till noon, decreasing them after this hour, until he quite ceases to fly about four in the afternoon: thus emulating the motions of that source of all his strength, the sun. The females, like those of many other species, are very rarely seen on the wing: the reason of which is both interesting and but little known. It is their being destitute of a certain *spiral socket*, which the males possess near the base of the main tendon of their upper wings; which *socket* receives and works a strong elastic *spring*, arising from the base of the under wings; thereby enabling them to perform a stronger, longer, and more easy flight than it is possible for the females to do.

Moses

Moses Harris, I believe, was the first* who discovered and published figures of this *socket* and *spring*, in an ingenious but little known work, called "*An Essay preceding a Supplement to the Aurelian, wherein are considered the Tendons and Membranes of the Wings of Butterflies*," where he tells us (p. 12.) "the females are not met with on the wing so "often as the *males*, some of which are very plentiful, but "the *females* rare to be seen; of which the *purple Emperor* "is one capital instance. I have been informed Mr. Whit- "worth caught thirteen in one day, and but one *female* "amongst them."

I can readily credit this, for in three days I took myself twenty-three, (nine of them in one day) but never took a female at all. The males usually fly very high, and are only to be taken by a bag-net fixed to the end of a rod twenty or thirty feet long. There have been instances, though very rare, of their settling on the ground near puddles of water, and being taken there. When the purple Emperor is within reach, no fly is more easily taken than him; for he is so very bold and fearless, that he will not move from his settling-place until you quite push him off: you may even tip the ends of his wings, and be suffered to strike again.

Harris, in the above *Essay*, has divided the genus Papilio ingeniously enough, into sections or families, from the number and position of the tendons in the wings, in a manner somewhat like that of my friend Jones in the 1st vol. of the Linn. Transactions.

Cardui. 22. P. N. G. (The painted Lady) Alis fulvo-roseis albo nigroque variegatis, posticis subtus ocellis quatuor.

Linn. Faun. Suec. 1054.—*Linn. Syst. Nat. tom.* 2. *p.* 774. 157.—*Gmel. Syst. Nat.* 1. 2305.—*Turt. Syst. Nat. p.* 96.—*Fab. Ent. Syst.* 3. 105. 320.—*Fab. Syst. Ent.* 499. 239.—*Fab. Mant.* 2. 45. 440.—*Fab. Sp. Ins.* 82. 364.—*Vill. Ent.* 2. 32. 45.—*Hüb. Schmet. pl.* 15. 73-4.—*Ent. Paris.* 235. 7.—*Berk. Syn.* 1. 126. 17.—*Scop. Carn.* 426.—*Müll. Zool. Dan.* 1299.—*Faun. Ingr.* 202. 613.—*P. Cardui Panz. Faun. Germ.* . . . . .—*Wilks, pl.* 107. *figuræ superiores.*—*Lewin's Pup. pl.* 6.—*Harris Aur. t.* 11. *e. f*—*Esper Schmet. t.* 10. *f.* 3.—*Donov. Br. Ins. pl.* 292.—*Albin's Ins. t.* 56.—*Merian Eruc. pars* 3.

* There is a further and fuller account of this apparatus in the first vol. of the Linn. Tr. p. 135, by Mr. Esprit Giorna of Turin.

pl. 15.

pl. 15.—*Nat. Misc. v.* 11. 430.—*Goed. Ins.* 3. *pl. A.*—*List. Goed. f.* 6.—*Raj. Ins.* 122. 13.—*Pet. Gaz. t.* 4. 21. 22.—*Pet. Mus.* 326.—*Seba Thes.* 4. 1. *E.*—*Schæf. Ic.* 97. *f.* 3. 4.—*Roes. Ins. cl.* 1. *t.* 10.—*Mouf. Ins.* 101 *f.* 9. 10.

HABITAT *Larva* m. Jul. Carduo lanceolato. *Imago* f. Jul. Carduetis, et per hyemem. Femina ova ponit tempore vernali.

EXPANSIO alarum 2 unc. 7 lin.

DESCRIPTIO. Larva solitaria spinosa fusca lineis flavis lateralibus interruptis. *Fab.*

PUPPA fusca lineis cinereis punctisque aureis. *Fab.*

IMAGO. *Alæ anticæ supra* basi fuscæ, disco rubro-fulvo maculis quadratis tribus nigris; apice nigro maculis punctisque albis; *subtus* fere ut supra, at magis rufescentes, apice grisescente nec nigro. *Alæ posticæ supra* basi et ad latus interius fuscescentes; post basin ad apicem fulvæ, punctis numerosis nigris quasi in strigis quatuor dispositis, quarta marginali; margine ipso albicante: *subtus* flavescenti-nebulosæ venis albidis anastomosantibus; ocellis 4 posticis quorum intermediis minoribus, strigaque marginali ex maculis utraque acutis seu compressis.

P. N. G. (The Grayling) Alis dentatis fulvo nigroque nebulosis, anticis ocellis utrinque duobus; posticis supra unico. *Linn. Faun. Suec.* 1051.—*Linn. Syst. Nat. tom.* 2. *p.* 772. 148.—*Gmel. Syst. Nat.* 1. 2300.—*Turt. Syst. Nat. p.* 32.—*Fab. Ent. Syst.* 3. 232. 725.—*Fab. Syst. Ent.* 494. 224.—*Fab. Mant.* 2. 39. 400.—*Fab. Sp. Ins.* 76. 341.—*Vill. Ent.* 2. 28. 39.—*Hüb. Schmet. pl.* 31. 143-4.—*Sulz. Ins. t.* 17. *f.* 5. 6. *Berk. Syn.* 1. 126. 15.—*P. Semele Panz. Faun. Germ.*....—*Müll. Zool. Dan.* 1323.—*Lewin's Pap. pl.* 17.—*Harris Aur. t.* 44. *a. c.*—*Donov. Br. Ins. pl.* 259. *Fem.*—*Esper Schmet. t.* 8. *f.* 1. *Femina.*—*Roes. Ins. cl.* 1. *t.* 34. *f.* 5. 6. *Fem.*—*Seba Thes.* 4. 2. *E.*—*Schæf. Ic.* 207. *f.* 4.—*Raj. Ins.* 128. *no.* 6.—*Pet. Gaz. t.* 14. *fig.* 9.—*Pet. Pap. t.* 5. *f.* 4. *Mas.* 3. *Fem.*—*Pet. Mus.* 307.—*Merrett's Pinax*, 198. 3. *Semele.* 23.

HABITAT *Imago* in Sylvaticis et Ericetis m. Jul. frequens.

EXPANSIO alarum 2 unc. 5 lin.

DESCRIPTIO. *Alæ primores* fuscæ fascia postica maculari fulva, in qua ocellis duo utrinque, pupilla alba iride nigra, in mare sæpe cæcis: *subtus* antice brunneo-fulvæ, postice flavicantes marginibus nebulosis. *Alæ secundariæ supra* antice fuscæ, fascia lata postica obscure fulva in qua in femina, ocellus posticus parvus. Margo posticus niger ciliis albis. *Subtus* albo nigroque nebulosæ puncto minuto albo postico versus

angulum ani. *Femina* mare multo pallidior, ocellis majoribus.

Galathea. 24. P. N. G. (The marbled White) Alis flavicantibus nigro maculatis subtus primoribus ocello unico, posticis quinque sesquialtero.

Linn. Syst. Nat. tom. 2. *p.* 772. 147.—*Gmel. Syst. Nat.* 1. 2298.—*Fab. Ent. Syst.* 3. 239. 745.—*Fab. Syst. Ent.* 496. 230.—*Fab. Mant.* 2. 43. 421.—*Fab. Sp. Ins.* 79. 349.—*Vill. Ent.* 2. 27.—*Hüb. Schmet. pl.* 41. 183-5.—*Berk. Syn.* 1. 125. 14.—*Scop. Carn.* 427.—*Wilks, pl.* 100.—*Lewin's Pap. pl.* 28.—*Harris Aur. t.* 11. *i. l. k.*—*Donov. Br. Ins.* 258. *Mas.*—*Geof. Hist. Ins. tom.* 2. *pl.* 11. *f.* 3. 4.—*Roes. el.* 2. *t.* 37. *f.* 1. 2.—*Esper Schmet. t.* 7. *f.* 3.—*Schæf. Ic.* 98. *f.* 7. 8. 9.—*P. Galathea Panz. Faun. Germ.....*—*Raj. Ins.* 116. 9.—*Pet. Pap. t.* 2. *f.* 10.—*Pet. Mus.* 3.—*Pet. Mus. octavo, tab.* 2. *f.* 3.—*Merrett's Pinax*, 198. 7.

HABITAT *Larva* in Gramine. *Imago* i. Jul. Sylvaticis humidis satis infrequens.

EXPANSIO alarum 2 unc. 2 lin.

DESCRIPTIO. Larva depressa flavescens: linea dorsali lateralique obscurioribus. *Fab.*

PUPPA cœrulescens aculeis duobus caudæ roseis. *Fab.*

IMAGO. Statura P. Rapæ. *Alæ supra* flavicantes nigro maculatæ: *subtus* concolores at pallidiores ocellis obsoletis: *anticæ* unico postice subtus costam: *posticæ* 5 posticis, 2 subtus costam, et 3 versus marginem interiorem, horum ano proximus duplicatus: pone ocellos striga dentata nigra.

Femina utrinque pallidior.

Mægera. 25. P. N. G. (The Wall) Alis subdentatis fulvis, fusco fasciatis utrinque, anticis sesquiocello: posticis supra quatuor, subtus sex.

Linn Syst. Nat. tom. 2. *p.* 771. 142.—*Gmel. Syst. Nat.* 1. 2295.—*Turt. Syst. Nat. p.* 92.—*Fab. Ent. Syst.* 3. 94. 292.—*Fab. Syst. Ent.* 492. 213.—*Fab. Mant.* 2. 36. 380.—*Fab. Sp. Ins.* 73. 324.—*Vill Ent.* 2 24.—*Müll. Zool. Dan.* 1521.—*Faun. Ingr.* 201. 612.—*Pap. Mæra Berk. Syn.* 1. 125. 12.—*Raj. Ins* 123. 15.—*Admiral Ins. pl.* 5.—*Pet. Pap. t.* 5. *f.* 8. *Mas.* 7 *Fem.*—*Pet. Mus.* 12.—*Lewin's Pap. pl.* 21.—*Scop. Ins. v.* 3. 2. *t.* 3.—*P. Mæra Wilks, pl.* 102.—*Donov. Br. Ins. pl.* 279. *Mas.*—*Harris Aur. t.* 27. *e. f. g.*—*Esper Schmet. t.* 5. *f.* 3.—*Schæf. Ic.* 148. *f* 3. 4.—*Merian Eruc. pars* 2. *pl.* 4. *figuræ dextræ et majores.*—*Merrett's Pinax*, 198. 6.

HABITAT

HABITAT *Larva* in Gramine i. Mai. i. Aug. *Imago* i. Jul. i. Aug. Sepimentis.
EXPANSIO alarum 1 unc. 10 lin.
DESCRIPTIO. *Alæ anticæ supra* fulvæ, margine postico fasciisque 3 tranversis fuscis, (alteraque in mare obliqua majore cæteris secante) ocelloque utrinque versus apicem et sæpe sesquialtero pupilla alba iride nigra; ocello majore subinde bipupillato. *Subtus* in utroque sexu paulo pallidiores, fasciis transversis nigris alternis abbreviatis. *Alæ posticæ* basi fuscæ postice fulvæ, fascia margineque fuscis; inter fasciam et marginem posticum ocellis 4 obscurioribus pupilla alba iride nigra, 1 et 4 sæpe cæcis: *subtus* cinereo nebulosæ strigis undatis subgriseis ocellisque posticis 6, (sexto subinde geminato) pupilla alba, iride nigra, circulo griseo.

P. N. G. (The speckled Wood) Alis fuscis luteo maculatis, utrinque anticis ocello, posticis supra tribus. *Ægeria.* 26.
Linn. Syst. Nat. tom. 2. p. 771. 143.—Gmel. Syst. Nat. 1. 2295.—Turt. Syst. Nat. p. 92.—Fab. Ent. Syst. 3. 94. 293.—Fab. Syst. Ent. 492. 214.—Fab. Mant. 2. 37. 381.—Fab. Sp. Ins. 73. 325.—Villars Ent. 2. 25. 35.—Hüb. Schmet. pl. 40. 181-2.—Ent. Paris. 239. 16.—Berk. Syn. 1. 125. 13.—Scop. Carn. 432.—Schæf. Ic. 75. f. 1. 2.—P. Ægeria Panz. Faun. Germ.....—Wilks, pl. 103.—Lewin's Pap. pl. 19.—Harris Aur. t. 41. i. k.—Esper Schmet. t. 7. f. 1.—Roesel. tom. 4. t. 23. f. 3. 4.—Sepp. Ins. v. 1. t. 6.—Seba Thes. 4. 2. C.—Raj. Ins. 128. 5.—Merrett's Pinax, 198. 2.—Pet. Gaz. t. 23. f. 3.—Pet. Pap. t. 5. f. 5. 6.
HABITAT *Larva* Mar. Mai. Jun. in Graminibus. *Imago* i. Ap. i. Jun. i. Aug. in Sylvis vulgaris.
EXPANSIO alarum 1 unc. 10 lin.
DESCRIPTIO. *Larva* viridis albo lineata cauda spinosa. *Fab.*
PUPPA brevis obesa viridis. *Fab.*
IMAGO. *Alæ anticæ* utrinque fuscæ maculis circiter 10 flavicantibus ocelloque unico versus apicem. *Posticæ* basi fuscæ, macula una alterave flavicante; ocellisque quatuor posticis, horum primus sæpe cæcus: *subtus* griseo nebulosæ et loco ocellorum punctis albidis in fascia grisescente marginali.

P. N. G. (The Meadow Brown) Alis fuscis uniocellatis utrinque, (femineis macula flava) posticis subtus griseis fascia cinerea. *Jurtina.* 27.
Pap. Jurtina (Fem.) Linn. Faun. Suec. 1052. et Janira (Mas.) 1053.—Linn. Syst. Nat. tom. 2. p. 774. 155. Janira 156.—Gmel. Syst. Nat. Jurtina (Fem.) 1. 2303. et Janira

nira (*Mas.*) 1. 2304.—*Vill. Ent.* 2. 31. *Jurtina* (*Fem.*) *et* 2. 33. *Janira* (*Mas.*).—*Ent. Paris.* 239. 17.—*Fab. Ent. Syst. Janira* 3. 241. 752. (*Mas.*)—*Fab. Syst. Ent.* 498. 236. *et* 497. 235.—*Fab. Mant.* 2. 44. 433. *Janira.*—*Fab. Sp. Ins.* 81. 359. *et* 358.—*Hüb. Schmet. pl.* 36. 160. *Mas.* 161. *Fem.*—*P. Jurtina Berk. Syn.* 1. 127. 16. *Fem.*—*Wilks, pl.* 101. *Fem.*—*Donov. Br. Ins. pl.* 320. *fig. sup. Mas. inferior et sinistra Femina.*—*Raj. Ins.* 124. 17. *Mas. et* 124. 16. *Fem.*—*Pet. Pap. t.* 5. *f.* 10. *Mas.* 9. *Fem.*—*Lewin's Pap. pl.* 18.—*Albin's Ins. t.* 53.—*Harris Aur. t.* 32. *e. Mas. c. Fem.*—*Faun. Ingr.* 209. 640. *Janira, et* β *Jurtina.*—*P. Jurtina Müll. Zool. Dan.* 1324.—*Esper Schmet. Janira Mas. t.* 10. *f.* 1. *Janira Fem. t.* 10. *f.* 2.—*Schæf. Ic.* 273. *f.* 1. 2. 5. 6. *Fem. et* 242. 1. 2. *Mas.*—*Roes. cl.* 1. *t.* 34. *f.* 7. 8. *Fem.*—*Sepp. Ins. v.* 1. *t.* 5. *Fem.*—*Merrett's Pinax*, 198. 10. *Fem.*—*Pet. Mus.* 309. *Mas. et* 308. *Fem.*

HABITAT copiose in Pratis *Imago* i. Jun.

EXPANSIO alarum 2 unc.

DESCRIPTIO. *Larva* villosa viridis linea laterali alba. cauda bifida. *Fab.*

PUPPA flavescens. *Fab.*

IMAGO. *Mas supra* sæpius omnino fuscus, *alæ majores* ocello postico utrinque, pupilla alba, iride nigra fulvo cincta; subinde litura obscura sub ocello posita flavicante. *Subtus* fulvæ margine postico grisescente; *alæ minores* antice griseæ, postice cinerascentes, punctis 1 ad 3 minutis fuscis. *Feminæ alæ majores supra* macula magna fulva; *subtus* antice saturate fulvæ, tunc fascia fulvo-flavicante; margine postico griseo. *Alæ minores supra* grisescentes; *subtus*, antice griseæ, fascia lata cinerea pone medium, in qua subinde punctum minutum griseum. Margo posticus itidem griseus.

OBS. Jurtinam et Janiram in copula junctos sæpe vidi.

Pilosellæ. 28. P. N. G. (The large Heath) Alis subdentatis disco lutescentibus anticis ocello bipupillato, posticis punctis duobus albis.

P. Pilosellæ Fab. Ent. Syst. 3. 240. 748.—*P. Pilosellæ Fab. Syst. Ent.* 497. 233.—*P. Tithonus Fab. Sp. Ins.* 80. 355.—*Fab. Mant.* 2. 33. 428.—*Linn. Syst. Nat.....*—*Gmel. Syst. Nat. t.* 1. 2300.—*Pap. Tithonus Lewin's Pap. pl.* 22.—*Non P. Pilosellæ Vill.* 2. 58. 97. *sed P. Tithonius* 2. 26. 37.—*Sepp. Ins. v.* 1. *t.* 3.—*Admiral Ins. t.* 29. *fig. major.*—*Pap. Herse Hüb. Schmet. pl.* 33. 156-7. *Fem.*—*Raj. Ins.* 124. *f.* 18.—*Pet. Pap. t.* 5. *f.* 11. *Mas.* 12 *Fem.*—*Harris Aur. t.* 44. *f. g.*—*Merrett's Pinax*, 199. 5. *Mas.*—*Pet. Mus.* 310.

HABITAT

HABITAT *Larva* in Hieracio Pilosella i. Jun. *Imago* m. Jul. in Compascuis vulgaris.
EXPANSIO alarum 1 unc. 8 lin.
DESCRIPTIO. *Larva* virescens albo-lineata, capite fusco. *Fab.*
IMAGO. Alæ majores supra fulvo-flavescentes basi, margineque postico fuscis, ocello bipupillato seu punctis duobus albis in macula nigra utrinque, versus apicem. *Subtus* flavicantes margine postico grisescente. *Alæ minores* fuscæ, disco fulvo, ocelloque obsoleto versus angulum ani. *Subtus* antice griseæ, fascia media cinerascente, in qua puncta 3 ad 5 alba, margine postico grisescente.
OBS. *Mas* paulo minor quam *femina* magisque obscura, et in pagina alarum anticarum maculam magnam fuscam gerit.

****** NYMPHALES PHALERATI (*Inocellated*). *Alis præcipue posticis dentatis inocellatis, subinde angulato-laciniatis.*

† LACINIATÆ (*Scolloped*). *Alis angulato-laciniatis, posticis subtus tristioribus. Antennis mediocribus.*

P. N. P. (The Comma) Alis laciniato-angulatis perfulvis nigro maculatis, posticis subtus C. albo notatis. *C. album.* 29.
Linn. Faun. Suec. 1059.—*Linn. Syst. Nat. tom.* 2. *p.* 778. 168.—*Gmel. Syst. Nat.* 1. 2314.—*Turt. Syst. Nat. p.* 105.—*Fab. Ent. Syst.* 3. 124. 380.—*Fab. Syst. Ent.* 506. 265.—*Fab. Mant.* 2. 50. 494.—*Fab. Sp. Ins.* 93. 409.—*Vill. Ent.* 2. 44. 75.—*Hüb. Schmet. pl.* 19. 92-3. *P. G. album.*—*Ent. Paris.* 235. 5.—*Faun. Ingr.* 203. 619.—*Scop. Carn.* 146. 422.—*De Geer Gen. Ins.* 31. 11.—*Müll. Zool. Dan.* 1298.—*Donov. Br. Ins.* 199.—*Wilks, pl.* 109.—*Lewin's Pap. pl.* 5.—*Albin's Ins.* 54.—*Harris Aur. t.* 1. *a. d. e.*—*Roes. Ins. cl.* 1. *t.* 5.—*Merian Eruc. pars* 1. *pl.* 14.—*Esper Schmet. t.* 13. *f.* 3.—*Berk. Syn.* 1. 127. 22.—*Schæf. Icon.* 147. 3. 4.—*Raj. Ins.* 118. 3.—*Pet. Pap. t.* 4. *f.* 5-11.—*Pet. Mus.* 328.—*Mouf. Ins.* 103. *f.* 2.? *Pessima omnium, facies Rhamni descriptione C. albi.*
HABITAT *Larva* in Humulo Lupulo m. Jan. m. Aug. *Imago* i. Jul. i. Sept. in Sylvaticis satis infrequens.
EXPANSIO alarum 2 unc.
DESCRIPTIO. Larva solitaria spinosa fulva, dorso antice flava, postice alba. *Fab.*
PUPPA carnea medio coarctata, punctis aureis. *Fab.*
IMAGO. Alæ laciniato-sinuatæ perfulvæ, *omnes supra* maculis

plurimis irregularibus nigris; *subtus* griseo-cinerascentes; *posticæ*, subtus C. albo notatæ. Femina paulo pallidior et subinde minus laciniata.

Urticæ. 30. P. N. P. (The small Tortoise-shell) Alis angulatis perfulvis nigro maculatis, anticis supra punctis tribus nigris; subtus pallidis nigro fasciatis.

Linn. Faun. Suec. 1058.—*Linn. Syst. Nat. tom.* 2. *p.* 777. 167. —*Gmel. Syst. Nat.* 1. 2313.—*Turt. Syst. Nat. p.* 105.—*Fab. Ent. Syst.* 3. 122. 374.—*Fab. Syst. Ent.* 505. 263.—*Fab. Mant. Ins.* 2. 50. 490.—*Fab. Sp. Ins.* 92. 405.—*Vill. Ent.* 2. 42. 74.—*Hüb. Schmet. pl.* 18. 87-8 *et forte* 89. *sed angulo ani nimis rotundato.*—*Ent. Paris.* 224. 4.—*Müll. Zool. Dan.* 1297.—*Faun. Ingr.* 203. 618.—*Scop. Carn.* 145. 421. —*Lewin's Pap. pl.* 3.—*Harris Aur. t.* 2. *m. n.*—*Donov. Br. Ins. pl.* 55.—*Wilks, pl.* 107. *figuræ inferiores.*—*Roes. Ins. cl.* 1. *t.* 4.—*Sepp. Ins. v.* 1. *t.* 2.—*Berk. Syn.* 1. 127. 21.—*Goed.* 1. *pl.* 21.—*Merian Eruc. pars* 1. *pl.* 44.—*List. Goed. f.* 2.—*Esper Schmet. t.* 13. *f.* 2.—*Albin's Ins. p.* 4. 6.—*Bradl. Nat. pl.* 27. *f.* 2.—*Schæf. Icon.* 142. *f.* 12.—*Barbut's Gen. pl.* 10. *f.* 167.—*Hill's Swam. tab.* 35.—*Raj. Ins.* 117. *no.* 1.—*Pet. Pap. t.* 4. *f.* 3. 4.—*Seba Thes.* 4. 1. *C.* —*Merrett's Pinax*, 198. 8.—*Pet. Mus.* 316.—*Mouf. Ins.* 101 *fig. inferior.*

HABITAT *Larva* in Urtica dioica i. Jun. m. Aug. *Imago* i. Jul. i. Sept. et per hyemem; in Hortis et passim, omnium vulgatior.

EXPANSIO alarum 2 unc. 3 lin.

DESCRIPTIO. *Larva* gregaria spinosa fusco viridique variegata, capite nigro. *Fab.*

PUPPA dentata fusca maculis collaribus aureis, subinde tota aurea. *Fab.*

IMAGO. Alæ omnes supra perfulvæ basi nigræ: margineque postico itidem nigro, lunulis cæruleis. *Anticæ* supra maculis tribus magnis costalibus fasciiformibus, et tribus disci, harum duæ posteriores minores. *Subtus pallidæ* maculis 3 costalibus lunulisque marginalibus nigris. *Alæ posticæ* subtus nigræ fascia lata cinerascente.

Polychloros. 31. P. N P. (The large Tortoise-shell) Alis angulatis perfulvis nigro maculatis, anticis supra punctis quatuor nigris: subtus cinereis nigro-fasciatis.

Linn. Faun. Suec. 1057.—*Linn. Syst. Nat. tom.* 2. *p.* 777. 166. —*Gmel. Syst. Nat.* 1. 2312.—*Turt. Syst. Nat. p.* 105.—*Fab. Ent. Syst.* 3. 121. 372.—*Fab. Syst. Ent.* 505. 262.—*Fab.*

Fab. Mant. Ins. 2. 49. 488.—*Fab. Sp. Ins.* 94. 404.—*Villars Ent.* 2. 41. 73.—*Hüb. Schmet. pl.* 17. 81-2.—*Ent. Paris.* 234. 3.—*Müll. Zool. Dan.* 1296.—*Faun. Ingr.* 203. 617.—*Berk. Synop.* 1. 127. 20.—*Scop. Carn.* 144. 420.—*Lewin's Pap. pl.* 2.—*Wilks, pl.* 108.—*Esper Schmet. t.* 13. *f.* 1.—*Donov. Br. Ins. pl.* 278.—*Roes. Ins. cl.* 1. *t.* 2.—*Sepp. Ins. v.* 1. *t.* 8.—*Admiral Ins. t.* 15.—*Albin's Ins. t.* 55.—*Merian Eruc. pars* 2. *pl.* 2.—*Schæf. Icon.* 146. *f.* 1. 2.—*Seba Thes.* 4. 1. *F.*—*Goed. Ins.* 1. 77.—*List. Goed. f.* 3.—*Raj. Ins.* 118. 2.—*Pet. Pap. t.* 4. *f.* 1. 2.—*Pet. Mus.* 315.

HABITAT *Larva* in Ulmo Campestre. *Puppa* in rimo corticis. *Imago* m. Jul. Ulmosis, rarius.

EXPANSIO alarum 3 unc.

DESCRIPTIO. *Larva* gregaria spinosa nigricans linea laterali flava. *Fab.*

PUPPA incarnata. *Fab.*

Alæ omnes perfulvæ maculis 4 minoribus subrhombeis disci, et 3 majoribus costalibus fasciiformibus, seu potius fasciis tribus abbreviatis nigris. Margo posticus niger striga maculari pallescente. *Alæ posticæ* supra perfulvæ macula magna costali nigra: margo posticus itidem niger, lunulis obscuris cœruleis. *Subtus* nigro nebulosæ fascia lata postica communi cinerea.

P. N P. (The White-bordered) Alis angulatis utrinque nigris, limbo maculisque duabus posticis ad costam albidis. *Antiopa.* 32.

Linn. Faun. Suec. 1056.—*Linn. Syst. Nat. tom.* 2. *p.* 776. 165.—*Gmel. Syst. Nat.* 1. 2311.—*Fab. Ent. Syst.* 3. 115. 355.—*Fab. Syst. Ent.* 503. 256.—*Fab. Mant.* 2. 48. 476.—*Fab. Sp. Ins.* 89. 394.—*Villars Ent.* 2. 41. 72.—*Hüb. Schmet. pl.* 16. 79. 80.—*Ent. Paris.* 233. 1.—*Berk.* 1. 126. 19.—*Scop.* 142. 419.—*Faun. Ingr.* 202. 615.—*Müll. Zool. Dan.* 1295.—*Esper Schmet. t.* 12. *f.* 2.—*Lewin's Pap. pl.* 1.—*Harris Aur. t.* 12. *d. e.*—*Wilks, pl.* 113.—*Donov. Br. Ins. pl.* 89.—*Pet. Gaz. t.* 133. *f.* 1.—*P. Morio De Geer Gen. Ins.* 31. 9.—*Roes. Ins. cl.* 1. *t.* 1.—*Schæf. Icon.* 70. *f.* 1. 2.—*Naturalist's Companion, frontispiece, fig.* 3.—*Raj. Ins.* 135. *Pap. max. nigra, &c.*—*Seba Thes.* 4. 32. *f.* 1. 2. 5. 6.

HABITAT *Larva* in Salice, Betulo, i. Jul. *Imago* i. Aug. et per hyemem. Femina ova ponit verno tempore. Certis sed indeterminatis annis non infrequens, in Locis sylvaticis.

EXPANSIO alarum 3 unc. 8 lin.

DESCRIPTIO. *Larva* gregaria spinosa nigra maculis dorsalibus quadratis ferrugineis. *Fab.*

PUPPA dentata nigra fulvo punctata. *Fab.*

IMAGO.

IMAGO. Alæ omnes undique nigræ, limbo maculisque duabus costalibus versus apicem albidis. *Supra* ordo posticus communis macularum cœrulescentium. *Alæ posticæ subtus* puncto minuto disci, maculaque costali ponè medium albicantibus.

OBS. There is something very extraordinary in the periodical but irregular appearances of this species, *Edusa* and *Cardui*. They are plentiful all over the kingdom in some years; after which *Antiopa* in particular will not be seen by any one for eight or ten, or more years, and then appear again as plentiful as before. To suppose they come from the continent is an idle conjecture; because the English specimens are easily distinguished from all others by the superior whiteness of their borders. Perhaps their eggs, in this climate, like the seeds of some vegetables, may occasionally lie dormant for several seasons, and not hatch, until some extraordinary but undiscovered coincidences awake them into active life.

†† DENTATÆ (*Dentated*). *Alis dentatis subtus minus tristibus quam in ultimis. Antennis mediocribus.*

Atalanta. 33. P. N. P. (The red Admiral) Alis nigris postice utrinque albo maculatis, fascia communi coccinea primoribus utrinque, posticis marginali.

Linn. Faun. Suec. 1060.—*Linn. Syst. Nat. tom.* 2. *p.* 779. 175.—*Gmel. Syst. Nat.* 1. 2316.—*Turt. Syst. Nat. p.* 103.—*Fab. Ent. Syst.* 3. 118. 362.—*Fab. Syst. Ent.* 504. 258.—*Fab. Mant. Ins.* 2. 49. 479.—*Fab. Spec. Ins.* 90. 397.—*Villars Ent.* 2. 45. 76.—*Ent. Paris.* 235. 6.—*Faun. Ingr.* 203. 616.—*Hüb. Schmet. p'.* 15. 73-4.—*Scop. Carn.* 424.—*Müll. Zool. Dan.* 1300.—*Wilks, pl.* 105.—*Lewin's Pap. pl.* 7.—*Admiral. t.* 24. *fig. majores.*—*Harris Aur.* 6. *fig.* 3. *majores.*—*Donov. Br. Ins. pl.* 260. *Mas.*—*Esper Schmet. t.* 14. *f.* 1.—*Schæf. Icon.* 148. *f.* 1. 2.—*Merian Eruc. pars* 2. *pl.* 41.—*Roes. Ins. cl.* 1 *t.* 6.—*Sepp. Ins. v.* 1. *t.* 1.—*Albin's Ins. pl.* 3.—*Berk. Syn.* 1. 127. 23.—*Pap. Atalanta Panz. Faun. Germ.*—*Scha Thes.* 4. 1. *D.*—*Raj. Ins.* 126. 1. *et* 127. 4.—*Pet. Pap. t.* 2. *f.* 11.—*Pet. Mus.* 327.—*Goed. Ins. v.* 2. *pl.* 39. *et v.* 1. *pl.* 26. *cum larva mala.*—*List. Goed. f.* 4. *et f.* 5. *cum larva mala.*—*Mouf. Ins.* 100. *f.* 3. 4.—*P. amiralis De Geer Gen. Ins.* 31. 10.

HABITAT *Larva* in Urtica dioica i. Jul. *Imago* in Sylvaticis i. Aug. et per hyemem. Femina ova tempore vernali ponit.

EXPANSIO alarum 2 unc. 10 lin.

DESCRIPTIO.

Descriptio. *Larva* solitaria spinosa virescens, linea dorsali flavicante. *Fab.*
Puppa dentata nigricans, subtus cinerea punctis aureis. *Fab.*
Imago. *Alæ* anticæ nigræ fascia media obliqua abrupte dentata læte rubra seu coccinea, extrorsum paulo arcuata, et quasi ex maculis quadratis confluentibus composita, quæ marginem tenuiorem non attingat; inter fasciam et apicem maculis sex difformibus albis, horum antica duplo major. *Posticæ* itidem nigræ fimbria rubra in qua puncta 4 nigra, maculaque didyma obscure cœrulea ad angulum ani. *Subtus anticæ* nigræ, apicibus cinerascenti-nebulosæ in qua ocelli duo obsoleti, puncto albo pro pupilla iride nigra duplici. In medio fascia obliqua rubra aliquot fracta et obtuse dentata, inter fasciam et basin lituræ duæ rubræ; inter fasciam et apicem maculæ 3 nigræ, harum anterior cæteris triplo major; inter has et fasciam litura quasi didyma cœrulea. *Posticæ* subtus nigro-nebulosæ, macula media costalis pallida triangularis, fasciaque postica obsoleta ex maculis subocellatis cordatis, obsoletis. Femina discrepat a mare punctulo albo in fascia coccinea.

P. N. P. (The white Admiral) Alis supra nigris fascia maculari communi punctisque albis utrinque; angulo ani rufescente. *Camilla.* 34.

Pap. Camilla Linn. Syst. Nat. tom. 2. *p.* 781. 187.—*Linn. Mus. Ulric.* 304. 122.—*Gmel. Syst. Nat.* 1. 2321. *P. Sibilla.*—*Fab. Ent. Syst.* 3. 246. 767. *P. Sibilla.*—*Fab. Syst. Ent.* 2. 512. *P. Sibilla* β.—*Fab. Mant. Ins.* 2. 55. 547. *P. Sibilla.*—*Fab. Spec. Ins.* 2. 102. *P. Sibilla* β.—*Villars Ent.* 2. 47. 78.—*P. Camilla Lewin's Pap. pl.* 8.—*P. Sibilla Hüb. Schmet. pl.* 22. 103. 5.—*Esper Schmet. t.* 14. *f.* 3.—*P. Camilla Donov. Br. Ins.* 244.—*P. Sibilla Panz. Faun. Germ.* . . . . .—*Harris Aur. t.* 30. *n. m.*—*Pet. Gaz. t.* 15. *f.* 12.—*Pet. Pap. t.* 2. *f.* 12.—*Raj. Ins.* 127. 3.
Habitat *Larva* in Lonicera. *Imago* i. Jul. in Sylvis rarius.
Expansio alarum 2 unc. 5 lin.
Descriptio. Larva viridis capite spinisque rubris. *Fab.*
Puppa viridis, aureo maculata, antice bicornis. *Fab.*
Imago. *Alæ anticæ subtus* flavicantes lituris fuscis: *supra* nigricantes, fascia arcuata maculari interrupta pone medium alba; utrinque inter fasciam et basin macula cinerea: inter fasciam et marginem posticum puncta tria alba, quorum duo approximata subtus costam: macula ad angulum ani rufescente obscura in qua puncta duo nigra. *Alæ posticæ supra* nigricantes fascia alba subulata maculari utrinque: *subtus* flavicantes

flavicantes lituris fuscis ad basin, ordinibusque duobus posticis punctorum fuscorum.

OBS. The graceful elegance displayed by this charming species when sailing on the wing, is greater perhaps than can be found in any other we have in Britain. There was an old Aurelian of London, so highly delighted at the inimitable flight of Camilla, that long after he was unable to pursue her, he used to go to the woods, and sit down on a stile, for the sole purpose of feasting his eyes with her fascinating evolutions.

The following admirable lines of Pope, Virgil, and Dryden, although not all of them exactly necessary to elucidate this subject, I cannot refrain from transcribing in this place.

These equal syllables alone require,
Tho' oft the ear the open vowels tire,
While expletives their *feeble* aid do join,
And ten low words oft *creep* in one dull line.
Soft is the strain when zephyr *gently* blows,
And the *smooth stream* in *smoother numbers flows*;
But when loud billows lash the sounding shore,
The hoarse rough verse should like the torrent roar;
When Ajax strives some rock's vast weight to throw,
The line too labours, and the words move slow;
Not so when swift Camilla scours the plain,
Flies o'er the unbending corn, and skims along the main.

POPE.

Vel mare per medium fluctu suspensa tumenti
Ferret iter, celeres nec tingeret æquore plantas,

VIRGIL.

She swept the seas, and, as she skimm'd along,
Her flying feet unbathed on billows hung.

DRYDEN.

††† FRITILLARIÆ (*Fritillaries*). *Alis omnibus supra fulvis nigro p'us minusve subtessellatis, posticis subtus argenteo vel albo vel albido eleganter notatis. Clava antennarum urniformi magna.*

+ Argenteæ (*Silver-spotted*). *Alis posticis subtus maculis argenteis.*

Papbia. 35. P. N. P. (The silver-washed Fritillary) Alis anticis undique fulvis nigro maculatis, posticis subtus virescentibus argenteo fasciatis.

Linn. Faun. Suec. 1064.—*Linn. Syst. Nat. tom.* 2. *p.* 785. 299. *Gmel.*

—*Gmel. Syst. Nat.* 1. 2332.—*Turt. Syst. Nat. p.* 114.—*Fab. Ent. Syst.* 3. 142. 438.—*Fab. Syst. Ent.* 515. 308.—*Fab. Mant. Ins.* 2. 62. 585.—*Fab. Sp. Ins.* 108. 472.—*Villars Ent.* 2. 53. 86.—*Ent. Paris.* 235. 8.—*Faun. Ingr.* 204. 620.—*Berk. Syn.* 1. 128. 27.—*Müll. Zool. Dan.* 1303.—*Hüb. Schmet. pl.* 14. 69-70. *Fem.* ?—*Lewin's Pap. pl.* 9.—*Harris Aur. t.* 34. *n. m.*—*Wilks, pl.* 110.—*Donov. pl.* 247. *Mas.*—*Esper Schmet. t.* 17. *f.* 2. *Mas.* 17. *f.* 1. *Fem.*—*Roes. Ins. cl.* 1. *t.* 7.—*Schæf. Icon.* 97. *f.* 3. 4.—*Raj. Ins.* 119. 4.—*Pet. Pap. t.* 3. *f.* 1. 2. *Mas.* 3. 4. *Fem.*—*Pet. Mus.* 321.

HABITAT *Larva* in Violis f. Mai. *Imago*, i. Jul. Sylvaticis rarius.

EXPANSIO alarum 2 unc. 11 lin.

DESCRIPTIO. *Larva* solitaria spinosa fulva, linea dorsali flava, spinis collaribus longissimis. *Fab.*

PUPPA grisea, collo coarctato, dentibus sex punctisque quatuor anticis aureis. *Fab.*

IMAGO. *Alæ omnes supra* fulvæ maculis numerosis lituris lineolisque nigris. *Subtus anticæ* pallidiores et minus maculatæ præcipue ad apicem. *Posticæ* virescentes, fasciis quatuor argenteis quarum 1. 2. antice abbreviatæ, tertia pone medium transversa, quarta marginalis. *Femina* a mare discrepat, *supra* coloribus magis obscuris, absque lineolis nigris: *subtus* pallidior at magis virescens.

P. N. P. (The dark green Fritillary) Alis anticis undique fulvis nigro maculatis, posticis subtus maculis 21 argenteis. *Aglaia.* 36.

Linn. Faun. Suec. 1065.—*Linn. Syst. Nat. tom.* 2. *p.* 785. 211.—*Gmel. Syst. Nat.* 1. 2333.—*Turt. Syst. Nat. p.* 115.—*Fab. Ent. Syst.* 3. 144. 442.—*Fab. Syst. Ent.* 516. 310.—*Fab. Mant. Ins.* 2. 62. 589.—*Fab. Spec. Ins.* 109. 475.—*Villars Ent.* 2. 54. 87.—*Hüb. Schmet. pl.* 13. 65-6.—*Ent. Paris.* 236. 9.—*Berk. Syn.* 1. 128. 28.—*Müll. Zool. Dan.* 1305.—*Schæf. Icon.* 7. *f.* 1. 2.—*Scop. Carn.* 439.—*Faun. Ingr.* 204. 621.—*Hist. Abb. Ins. t.* 11. *f.* 1.—*Geof. Hist. Ins. tom.* 2. *pl.* 11. *f.* 1. 2.—*Wilks, pl.* 105.—*Lewin's Pap. pl.* 11.—*Harris Aur. t.* 26. *o. p.*—*Donov. Brit. Ins. pl.* 302. *Mas.*—*Esper Schmet. t.* 17. *f.* 3.—*Admiral. t.* 19. *fig. sinistra.*—*Roes. Ins. tom.* 4. *t.* 25.—*Pet. Pap. t.* 3. *f.* 7. 8.—*Mouf.* 101. 11.

HABITAT *Larva* in Violis, m. Mai. *Imago* in Sylvaticis i. Jul. rarior.

EXPANSIO alarum 2 unc. 8 lin.

DESCRIPTIO. *Larva* solitaria spinosa atra maculis quadratis lateralibus ferrugineis. *Fab.*

PUPPA fusca. *Fab.*

IMAGO

IMAGO præcedenti simillima in pagina superiore at absque lineolis nigris. *Alæ anticæ subtus* maculis 6 posticis obsolete argenteis: *utrinque* ad costam lituris 5 nigris, quarta composita litura B referente. *Alæ posticæ subtus* virescentes fascia obscura postica flavicante, maculisque vel punctis 21 argenteis. *Femina* præcipue supra paulo obscurior.

Charlotta. 37. * P. N. P. (The Queen of England Fritillary) Alis anticis utrinque fulvis nigro maculatis, posticis subtus maculis 19 argenteis.

Pap. Charlotta Prod. Lep. Brit. p. 3. 27.

HABITAT *Imago* i. Jul. Sylvaticis rarissime mas. In comitatu Bedfordiense nuper detecta, et ad me missa, amico meo C. Abbott D.D. Femina olim D. Wilks, at ubi nescio.

EXPANSIO alarum 2 unc. 7 lin.

DESCRIPTIO. *Imago* simillima præcedenti at distincta et longe pulchrior, differt in his: *Alæ anticæ* lituris 4 nec 5 costalibus utrinque, quarum 2 nec 1 compositæ sunt: *alæ posticæ* subtus maculis 19 nec 21 argenteis, quarum tres anteriores triplo majores sunt quam in præcedente, intermedia punctulo nigro versus basin.

Femina supra obscurior, ut in affinibus.

Adippe. 38. P. N. P. (The high brown Fritillary) Alis anticis fulvis nigro maculatis, posticis subtus maculis 23 argenteis.

Linn. Faun. Suec. 1066. (*Cydippe.*)—*Linn. Syst. Nat. tom.* 2. *p.* 786. 212.—*Gmel. Syst. Nat.* 1. 2334.—*Turt. Syst. Nat. p.* 115.—*Fab. Ent. Syst.* 3. 146. 448.—*Fab. Syst. Ent.* 517. 213.—*Fab. Mant. Ins.* 2. 63. 595.—*Fab. Spec. Ins.* 110. 480.—*Villars Ent.* 2. 14.—*Hüb. Schmet. pl.* 12. 63-4.—*Esper Schmet. t.* 18. *f.* 1.—*Müll. Zool. Dan.* 1306.—*Lewin's Pap. pl.* 10.—*Harris Aur. t.* 28. *d. e.*—*De Geer Ins. tom.* 2. *pl.* 1. *f.* 8. 9.—*Admiral Ins. t.* 19. *fig. dextra.*—*P. margaritaceus medius De Geer Gen. Ins.* 31. 12.—*Feusly Archiv. pag.* 1. *t.* 1.—*Pet. Pap. t.* 3. *f.* 5. 6.—*Raj. Ins.* 119. 5.—*Seba Thes.* 4. 61. 6.—*Pet. Mus.* 329.

HABITAT *Larva* in Violis m. Mai. *Imago* i. Jul. Sylvaticis, rarius.

EXPANSIO alarum 2 unc. 8 lin.

DESCRIPTIO. *Larva* fusca pilis ferrugineis, dorso albo punctata. *Fab.*

PUPPA brunnea punctis pallidis. *Fab.*

IMAGO. P. Aglaiæ simillima præcipue in pagina superiore. *Alæ posticæ* subtus maculis 6 seu 7 difformibus argenteis sparsis prope basin: dein quasi fascia ex 7 maculis argenteis quadratis,

quadratis, quarta punctiformis: tunc quasi striga ex maculis 6 s 7 rotundis rubro-ferrugineis, quarum 3. 4. 5. pro pupilla punctum argenteum habent: demum fascia marginali, ex maculis argenteis septem, ferrugineo anterius marginatis. Femina supra saturatior, ut in affinibus.

P. N. P. (The Queen of Spain Fritillary) Alis fulvis nigro maculatis, subtus maculis 35 argenteis. *Latbonia.* 39.

Linn. Faun. Suec. 1068.—*Linn. Syst. Nat. tom.* 2. *p.* 786. 213.—*Gmel. Syst. Nat.* 1. 2334.—*Turt. Syst. Nat. p.* 116.—*Fab. Ent. Syst.* 3. 146. 449.—*Fab. Syst. Ent.* 517. 314.—*Fab. Mant. Ins.* 2. 63. 596.—*Fab. Spec. Ins.* 110. 481.—*Villars Ent.* 2. 55.—*Hüb. Schmet. pl.* 11. 59. 60.—*Ent. Paris.* 236. 10.—*Faun. Inger.* 304. 622.—*Scop. Carn.* 440.—*Müll. Zool. Dan.* 1307.—*Berk. Syn.* 1. 128. 29.—*Lewin's Pap. pl.* 12.—*Esper Schmet. t.* 18. *f.* 2.—*Donov. Br. Ins. pl.* 73.—*Roes. Ins. cl.* 1. *t.* 10.—*Sepp. Ins. v.* 2. *t.* 1.—*Ray. Ins. p.* 120. *n.* 6.—*Pet. Pap. t.* 3. *f.* 23. 24. *mala.*—*Pet. Mus.* 520.—*Seba Thes.* 4. 1. *H.*

Habitat *Imago* Sylvaticis prope Cantabrigiam, etiam prope Londinum, et etiam prope Wisbeach, f. Mai. i. Sept. sed rarissime.

Expansio alarum M. 1 unc. 10 lin. F. 2 unc. 1 lin.

Descriptio. *Imago. Alæ omnes supra* fulvæ, maculis punctiformibus numerosis distinctis nigris. *Anticæ subtus* pallidiores maculis numerosis nigris, aliisque (5 s. 7) argenteis difformibus ad apicem. *Alæ posticæ* subtus maculis argenteis 28, quarum 18 majores 10 minores: præterea harum macularum 14 inter basin et medium sparsæ, tunc striga arcuata ex maculis 7 parvis subocellatis, pupilla argentea iride fusco-ferruginea: demum fascia marginalis ex maculis 7 magnis argenteis.

P. N. P. (The Pearl-bordered Fritillary) Alis fulvis nigro maculatis, posticis subtus maculis 9 argenteis. *Euphrosyne.* 40.

Linn. Faun. Suec. 1069.—*Linn. Syst. Nat. tom.* 2. *p.* 786. 214.—*Gmel. Syst. Nat.* 1. 2335.—*Turt. Syst. Nat. p.* 116.—*Fab. Ent. Syst* 3. 146. 450.—*Fab. Syst. Ent.* 517. 315.—*Fab. Mant. Ins.* 2. 63. 597.—*Fab. Spec. Ins.* 111. 482.—*Vill. Ent.* 2. 56. 90.—*Hüb. Schmet. pl.* 6. *pl.* 28-30.—*Ent. Paris.* 236. 11.—*Berk. Syn.* 1. 128. 30.—*Lewin's Pap. pl.* 13. 1. 2.—*Donov. Br. Ins. pl.* 312.—*Harris Aur. t.* 4. *f e.*—*Müll. Zool. Dan.* 1034.—*Esper Schmet. t.* 18. *f.* 3.—*Scop. Carn.* 441.—*De Geer Ins. tom.* 2. *pl.* 1. *f.* 10. 11.—*Pet.*

Mus. 322.—*Pet. Pap. t.* 3. *f.* 17. 18.—*P. argenticollis De Geer Gen. Ins.* 31. 13.

HABITAT *Imago* i. Jun. Sylvaticis frequens.

EXPANSIO alarum 1 unc. 10 lin.

DESCRIPTIO. *Larva* spinosa nigra macularum pari dorsalium aurantiarum, in singulo segmento. *Fab.*

IMAGO. *Alæ omnes supra* fulvæ nigro multo maculatæ; maculæ fere fascias constituunt. *Anticæ subtus* pallidiores maculis undatis nigris. *Posticæ subtus* basi rubro ferrugineæ macula una alterave argentea, alteraque ocellari nigra iride flavicante: tunc fascia irregularis et quasi macularis flavicans, in qua macula cuneiformis argentea: tunc fascia lata obscurior ferruginea, in qua puncta obsoleta fusca maculæque flavicantes: demum maculæ 7 fere trigonæ argenteæ marginales.

Silene. 41. P. N. P. (The small Pearl-bordered Fritillary) Alis fulvis nigro maculatis, posticis subtus maculis 12 argenteis, puncto distincto baseos strigaque postica e punctis atris.

Fab. Ent. Syst. 1. 47. 451.—*Wien. Verz.* 177. 7.—*Hüb. Schmet. pl.* 5. 26-7.—*Pap. Selene Panz. Faun. Germ.*—*Pap. Maturna Berk. Out.* 1. 128. 25.—*P. Euphrosyne var. Esper Schmet. t.* 30. *f.* 1.—*Pap. Euphrasia Lewin's Pap. pl.* 13. *f.* 3. 4.—*Harris Aur. t.* 31. *i. k.*—*Raj. Ins.* 120. 7.—*Pet. Pap. t.* 3. *f.* 13. 14.—*Merret's Pinax*, 199. 7.?

HABITAT *Imago* i. Jul. Sylvaticis frequens.

EXPANSIO alarum 1 unc. 10 lin.

DESCRIPTIO. Affinis omnino præcedenti, attamen distincta videtur. Differt imprimis, puncto distincto baseos subtus in alis posticis, macula argentea in angulum ani, aliisque oppositis ad marginem exteriorem, maculis denique duabus magnis, brunneis postice, et per has striga e punctis distinctis atris. *Fab.* l. c.

OBS. Omnium nostratum minima quæ in maculis argenteis gaudent—maculæ argenteæ minus splendidæ quam in præcedentibus.

++ Albicantes (*Buff-spotted*). *Alis posticis subtus maculis albis albidis vel subflavis.*

Dictynna. 42. P. N. P. (The Pearl-bordered Likeness) Alis nigris fulvo tessellatis, posticis subtus fulvis maculis baseos, fascia media maculari lunulisque apicis flavis.

Gmel. Syst. Nat. 1. 2330.—*Turt. Syst. Nat. p.* 41.—*Fab. Ent. Syst.* 3. 253. 785.—*Vill. Ent.* 2. 59. 98. *et* 4. 414. 98.—*Pap.*

Pap. Maturna Wilks, pl. 112.—*Schæf. Icon.* 184. 2. 3.—*Pap. Maturna Hüb. Schmet. pl.* 4. 17. 18.—*Raj. Ins.* 128. 2.—*Pet. Pap. t.* 3. *f.* 13. 14.—*Pet. Mus.* 323.—*Pap. Dictynna Lewin's Pap. pl.* 14. 5. 6.—*Harris Aur. t.* 38. *n. m.*

Habitat *Imago* i. Mai. Ericetis minus frequens.

Expansio alarum 1 unc. 9 lin.

Descriptio. *Alæ anticæ subtus* minus maculatæ quam in præcedentibus, maculis versus apicem flavicantibus. *Posticæ subtus* prope basin fascia ex maculis 4 subquadratis flavicantibus, singulis nigro marginatis: tunc fascia brunnea in qua macula oblonga flavicans, nigro itidem marginata: tunc fascia altera ex maculis numerosis concatenatis, singulo nigro marginatis: tandem fascia altera ex lunulis brunneis nigro marginatis composita: denique fascia tertia flavicante marginali ex lunulis 6, nigro itidem marginatis.

P. N. P. (The dark underwinged Fritillary) Alis fulvis lituris nigris, posticis nigris striga fulva, subtus fascia nigra venis fulvis, posticis fascia albida venis maculisque atris. *Eos.* 43. *

Habitat cum præcedente eodem loco et tempore, at rarissime. †

Expansio alarum unc. lin.

Descriptio. Statura præcedentis sed paulo minor. *Alæ anticæ* perfulvæ venis, basi, lituris ante medium, striga undata aliquo obscura pone medium, fasciaque marginali nigris: *posticæ* nigræ striga undata pone medium, ex maculis 6 distinctis angulatis seu quadratis fulvis, horum una ad angulum ani bifida. *Subtus alæ anticæ* fulvæ maculis duabus versus basin quadratis nigris, tunc fascia lata nigra venis fulvis intersecta, tandem ad marginem posticum striga ex lunulis confluentibus nigris, lunulis pallidis utraque plus minusve adnatis; denique striga tenuissima marginali nigra: *posticæ* basi fulvæ maculis circiter 8 angulatis seu quadratis contiguis nigris, tunc in media fascia lata undata albida venis nigris intersecta, pone fasciam striga ex lunulis fulvis nigro-marginatis, tunc striga undata versus marginem posticum ex lunulis nigris, utraque lunulis pallidis adnatis; denique striga tenuissima marginalis nigra: ciliis in omnibus alis utrinque nigris albidisque ut in P. Dictynna.

Obs. I have named this new and beautiful Fritillary after Eos, the Goddess of the morning. It was taken near London, early on the morning of the .. day of June, 1803, by my ingenious friend Mr. John Howard, of Kingsland, and is the only one of its kind I have hitherto seen. It has a considerable resemblance to P. Dictynna, but is nevertheless abundantly distinct from that species.

P. N. P.

Cinxia. 44. P. N. P. (The Glanville Fritillary) Alis fulvis nigro tessellatis subtus fasciis tribus albidis nigro maculatis; strigaque punctorum subocellatorum utrinque.

Linn. Faun. Suec. 1063.—*Linn. Syst. Nat. tom.* 2. *p.* 784. 205. —*Gmel. Syst. Nat.* 1. 2329.—*Turt. Syst. Nat. p.* 40.—*Fab. Ent. Syst.* 3. 250. 779.—*Fab. Syst. Ent.* 2. 514. 304.—*Fab. Mant. Ins.* 2. 58. 567.—*Fab. Sp. Ins.* 106. 465.—*Lewin's Pap. pl.* 14. 3. 4.—*Wilks, pl.* 111.—*Donov. Br. Ins.* 242. 1. —*Harris Aur. t.* 16. *e. d. f.*—*Villars Ent.* 2. 51. 84.—*Berk. Syn.* 1. 128. 26.—*P. Delia Hüb. Schmet. pl.* 2. 7. 8?—*Müll. Zool. Dan.* 1302.—*Scopol. Carniol.* 437.—*Faun. Ingr.* 209. 659.—*Schæf Icon.* 204. *f.* 1. 2.—*De Geer Ins. tom.* 2. *pl.* 1. *f.* 17. 18.—*Raj. Ins.* 121. 9.—*Pet. Gaz. t.* 18. *f.* 10. —*Pet. Pap. t.* 3. *f.* 25 —*Roes. Ins. tom.* 4. *t.* 13.—*P. Abbacus De Geer Gen. Ins.* 32. 15.

HABITAT *Larva* in Plantagine lanceolata m. Ap. *Imago* in Pratis m. Jun. valde infrequens.

EXPANSIO alarum 1 unc. 11 lin.

DESCRIPTIO. Larva spinosa atra, linea laterali e punctis albis. *Fab.*

PUPA fusca subtus punctis fulvis lineata. *Fab.*

IMAGO. *Alæ anticæ subtus* fulvæ, lituris nigris, disco immaculato, apice flavicante, punctis nigris *Alæ posticæ utrinque* striga postica punctorum sex subocellatorum, quatuor quorum supra, pro pupilla, punctum nigrum habent iride subquadrato fulvo: *subtus* fasciis 3 flavicantibus duabusque brunneis ex maculis quadratis nigro marginatis: in singula fascia (prima brunnea excepta) striga punctorum nigrorum.

Artemis. 45. P. N. P. (The greasy Fritillary) Alis fulvis nigro undatis, posticis striga punctorum nigrorum utrinque.

Gmel Syst. Nat. 1. 2329.—*Turt. Syst. Nat. p.* 42.—*Fab. Ent. Syst.* 3. 255. 790.—*Fab. Mant. Ins.* 2. 61. 579.—*Hüb. Schmet. pl.* 1 4 5. 6.—*Lewin's Pap.* 15. 3. 4.—*Harris Aur. t.* 28. *b.* 1. *g* —*P. Lucina Wilks, pl.* 114.—*Raj. Ins.* 121. 11. *Mas.* 121. 10. *Fem.*—*Pet. Pap. t.* 3. *f.* 21. 22. *Mas.* 19. 20. *Fem.*

HABITAT *In arva* in Scabiosa succisa m. Apr. *Imago* m. Mai. Pratis, valde infrequens.

EXPANSIO alarum 1 unc. 10 lin.

DESCRIPTIO. *Alæ supra* rubro-fulvæ nigro undatæ maculis flavicantibus. *Posticæ utrinque* ante marginem posticum striga ex punctis 7. parvis nigris, *subtus* flavo obsolete cinctis. *Alæ anticæ subtus* pallidiores et fere absque nigredine. *Posticæ subtus* fasciis 3 flavicantibus, prima versus basin in medio

dio fracta: secunda arcuata media: tertia marginalis ex lunulis 7.

P. N. P. (The Duke of Burgundy Fritillary) Alis nigris fulvo maculatis, subtus fasciis duabus macularum albidarum. *Lucinæ.* 46.

Linn. Faun. Suec. 1161.—*Linn. Syst. Nat tom.* 2. 784. 203.—*Gmel. Syst. Nat.* 1. 2328.—*Turt. Syst. Nat. p.* 40.—*Fab. Ent. Syst.* 3. 250. 778.—*Fab. Syst. Ent.* 514. 303.—*Fab. Mant. Ins.* 2. 58. 566.—*Fab. Sp. Ins.* 106 404.—*Villars Ent.* 2. 49. 82.—*Hüb. Schmet. pl.* 4. 21. 22.—*Müll. Zool. Dan.* 1301.—*Berk. Syn.* 1. 127. 24.—*Lewin's Pap. pl.* 15. 5. 6.—*Harris Aur. t.* 27. *n.* 0.—*Donov. Br. Ins. pl.* 242. 2.—*Esper Schmet. t.* 16. *f.* 1.—*Schæf. Icon.* 172. 1. 2.—*Raj. Ins.* 122. 12.—*Pet. Gaz. t.* 16. *f.* 10.—*Pet. Pap. t.* 3. *f.* 15. 16.—*Pet. Mus.* 324.

Habitat *Larva* in Graminibus. *Imago* f. Mai. satis infrequens.

Expansio alarum 1 unc. 4 lin.

Descriptio. Affinis præcedenti, sed fere triplo minor. *Alæ omnes supra* nigro fulvoque subtessellatæ basi nigricantes. *Anticæ subtus* fulvæ nigro pallidoque notatæ. *Posticæ subtus* saturate fulvæ fasciis duabus macularum albidarum, strigaque punctorum nigrorum marginali; ciliis albis fuscisque.

******* PLEBEII RURALES. *Statura in hoc genere parva. Alis anticis integris maculis opacis.*

† Caudatæ (*Hair-streaks*). *Alis posticis emarginato-caudatis, omnibus subtus striga pallida.*

P. P. R. (The brown Hair-streak) Alis caudatis fuscis, anticis macula reniformi fulva, subtus luteis fascia fulva albo marginata. *Betulæ.* 47.

Linn. Faun. Suec. 1070.—*Linn. Syst. Nat. tom.* 2. *p.* 787. 220.—*Gmel. Syst. Nat.* 1. 2341.—*Turt. Syst. Nat. p.* 131.—*Fab. Ent. Syst.* 3. 277. 69. *Hesperia Betulæ.*—*Fab. Syst. Ent.* 520. 230.—*Fab. Mant. Ins.* 2. 6[illegible]. 649.—*Fab. Sp. Ins.* 118. 425.—*Villars Ent.* 2. 62. 114.—*Hüb. Schmet. pl.* 76. 383-5.—*Ent. Paris.* 243. 27.—*Lewin's Pap. pl.* 42.—*Harris Aur. t.* 42. *e. l.*—*Wilks, pl.* 117.—*Donov. Br. Ins. pl.* 250. *Mas.*—*Müll. Zool. Dan.* 1291.—*Faun. Ingr.* 210. 641.—*Barb. Gen. Ins. pl.* 10. *f.* 220.—*Esper Schmet. t.* 19. *f.* 1.—*Albin's Ins. pl.* 5. *f.* 7.—*Pap. Betulæ Panz. Faun. Germ. . . . .*—*Roes. Ins. cl.* 2, *t.* 6.—*Raj. Ins.* 130. 10.—*Pet. Gaz. t.* 11. *f.* 10. *Fem.*

et

et t. 11. *f.* 11. *Mas.—Pet. Pap. t.* 4. *f.* 23-25.—*Berk. Syn.* 1. 129. 31.—*Admiral Ins. t.* 17.—*Schæf. Icon. t.* 275. *f.* 1, 2. *Mas. et* 212. 1. 2. *Fem.*

Habitat *Larva* in Betula f. Jun. *Imago* in Sylvis Betuletis rar. m. Aug. v. p. in radiis solaribus.

Expansio alarum 1 unc. 6 lin.

Descriptio. Larva obesa viridis lineis duabus dorsalibus striisque obliquis transversis lateralibus albis. *Fab.*

Puppa glabra ferruginea. *Fab.*

Imago. *Mas* magis obscurus quam *femina*, et supra macula fulva disci valde obscura et parva: *in utroque sexu supra* macula una alterave fulva ad angulum ani: *subtus* macula oblonga fusca disci, albo subinde marginata, margineque postico rubro-fulvo. Cæteris ut in charactere specifico.

Pruni. 48. P. P. R. (The black Hair-streak) Alis caudatis fuscis, subtus striga communi undata alba, posticis fascia marginali rubro-fulva nigro marginata.

Linn. Faun. Suec. 1071.—*Linn. Syst. Nat. tom.* 2. *p.* 788. 221.—*Gmel. Syst. Nat.* 1. 2341.—*Turt. Syst. Nat. p.* 131.—*Fab. Ent. Syst.* 3. 277. 70. *Hesperia Pruni*; (*excluso synonymo Schæfferi.*)—*Fab. Syst. Ent.* 521. 331.—*Fab. Sp. Ins.* 118. 526.—*Villars* 2. 62. (*excl. syn. Schæf.*)—*Pap. W. album Hüb. Schmet. pl.* 75. 380-1.—*Pap. W. album Villars* 2. 83. *t.* 4. *f.* 12. *a P. Pruni nullo modo differt.—Scop. Carn.* 459.—*Ent. Paris.* 243. 28.—*Esper Schmet. t.* 19. *f.* 3.—*Pet. Gaz. t.* 11. *f.* 9.

Habitat *Larva* i. Jul. in Pruno. *Imago* f. Jul. Sepibus valde infrequens.

Expansio alarum 1 unc. 5 lin.

Descriptio. *Larva* obesa viridis linea laterali albicante, dorso dentato. *Fab.*

Puppa fusca capite albo. *Fab.*

Imago. *Alæ omnes supra* omnino fuscæ seu nigricantes et immaculatæ; *subtus* pallidiores seu fusco-cinerascentes. *Primores* striga postica subundata alba. *Secundariæ* striga undata fasciaque marginali cuprea seu rubro-fulva, extus nigro punctata, intus nigro lineata; caudiculis fuscis apicibus nigris.

Quercus. 49. P. P. R. (The purple Hair streak) Alis subcaudatis nigris disco cœruleo, subtus cinereis striga alba punctoque ani gemino fulvo.

Linn. Faun. Suec. 1072.—*Linn. Mus. Reginæ.* 314. 132.—*Linn. Syst. Nat. tom.* 2. *p.* 788. 222.—*Gmel. Syst. Nat.* 1. 2341.

2341.—*Turt. Syst. Nat. p.* 131.—*Fab. Ent. Syst.* 3. 278. 72. *Hesperia Quercus.*—*Fab. Syst. Ent.* 521. 332.—*Fab. Mant. Ins.* 69. 652.—*Fab. Sp. Ins.* 118. 527.—*Villars Ent.* 2. 63.—*Hüb. Schmet. pl.* 73. 368. 370.—*Mül. Faun. Silesiaca Mas et Fem.*—*Müll. Zool. Dan.* 1292.—*Ent. Paris.* 242. 26.—*Faun. Ingr.* 210, 642.—*Esper Schmet. t.* 19. *f.* 2. *c. Mas. a. Fem.*—*Raj. Ins.* 129. 8. *Mas. et* 130. 9. *Fem.*—*Roes. cl.* 2. *t.* 9.—*Wilks, pl.* 116.—*Lewin's Pap. pl.* 43.—*Albin's Ins. t.* 52. *b. c.*—*Harris Aur. t.* 10. *d. e. g.*—*Pet. Gaz. t.* 11. *f.* 9.—*Pet. Pap. t.* 4. *f.* 26-28.—*Schæf. Icon. t.* 158. *f.* 4. 5.—*Berk.* 1. 129. 32.—*P. Quercus Panz. Faun. Germ.*....—*Sulz. Ins. t.* 18. *f.* 10.—*Admiral Ins. t.* 17.—*Rœm. Gen. t.* 18. *f.* 10.

Habitat *Larva* i. Jun. in Quercu Robore. *Imago* m. Jul. Quercisummis, frequens.

Expansio alarum 1 unc. 5 lin.

Descriptio. Larva obesa supra rosea lineis tribus punctorum viridium. *Fab.*

Puppa glabra ferruginea lineis tribus dorsalibus punctorum fuscorum. *Fab.*

Imago. Supra nigricans, disco alarum superiorum cœruleo pulcherrime micante, ex maculis duabus magnis contiguis oblongis saturate cœruleis a basi versus apicem ductis, infimo duplo majore. *Alæ omnes subtus* canescentes striga communi repanda postica alba: ocello uno alterove ad angulum ani, fulvo, pupilla nigra; qui in mare subinde albescunt. *Femina* discrepat a mare, alis anticis fusco-purpureis vel subinde omnino fuscis absque cœruleo.

P. P. R. (The green Hair-streak) Alis emarginato-subcaudatis, supra fuscis, subtus viridibus. *Rubi.* 50.

Linn. Faun. Suec. 1077.—*Linn. Syst. Nat. tom.* 2. *p.* 791. 237.—*Gmel. Syst. Nat.* 1. 2252.—*Turt. Syst. Nat. p.* 135.—*Fab. Ent. Syst.* 3. 287. 102. *Hesperia Rubi.*—*Fab. Syst. Ent.* 523. 339.—*Fab. Mant. Ins.* 71. 670.—*Fab. Spec. Ins.* 121. 539.—*Villars Ent.* 2. 68.—*Hüb. Schmet. pl.* 72. 364-5.—*Berk. Syn.* 1. 129. 35.—*Müll. Zool. Dan.* 1293.—*Scop. Carn.* 460.—*Faun. Ingr.* 210. 643.—*Lewin's Pap. pl.* 44.—*Wilks, pl.* 118.—*Esper Schmet. t.* 21. *f.* 2.—*Rœm. Gen. t.* 18. *f.* 11. 12.—*Sulz. Ins. t.* 18. *f.* 11. 12.—*Albin's Ins. pl.* 5. *f.* 8.—*Pet. Gaz. t.* 2. *f.* 11.—*Schæf. Icon. t.* 29. *f.* 5. 6.—*Merrett's Pinax,* 199. 2.

Habitat *Larva* i. Jul. in Rubo fruticoso. *Imago* f. Mai. Sepibus, rarius.

Expansio alarum 1 unc. 3 lin.

Descriptio.

Descriptio. Larva viridis flavo variegata, capite nigro.
Imago. Præcedentibus minor, supra nigricans, macula (præcipue in femina) pallida fere obliterata in disco alarum anticarum prope costam: *subtus* viridis. *Posticæ* striga punctorum albidorum pone medium, quæ subinde (præcipue in mare) fere obliterata est, sed puncto uno alterove semper adest.

†† Cupreæ (*Coppers*). *Alis posticis ad angulum ani plus minusve emarginatis, omnibus supra igneo-cupreis, subtus punctis numerosis subocellaribus.*

Dispar. 51. P. P. R. (The large Copper) Alis igneo-cupreis puncto margineque nigris, posticis subtus pallide cœruleis punctis numerosis, margineque cupreo.

Pap. Dispar Prod. Lep. Brit. p. 3.—P. Hippothoe varietas Esper Schmet. t. 34. f. 1.—P. Hippothoe Lewin's Pap. pl. 40.—P. Hippothoe Donov. Br. Ins. pl. 117. nec aliorum auctorum, quæ ultima species optime delineata est in Roes. Ins. cl. 2. t. 37. f. 6. 7. Mas.—Valde affinis Pap. Gordio, Esperi et Rœmeri, at non eadem.

Habitat *Imago* f. Jul. in Paludibus arundinetis in comitatu Cantabrigiense, ubi, certis at non determinatis annis, frequens. Nova et pulcherrima species ad Angliam; nuper detecta a me et amicissimis meis W. Skrimshire et F. Skrimshire M. D. et olim in Wallia celeberrimo Hudsono Botanicorum: sed nunquam in Scotia, ut amicus meus E. Donovan ex informatione erronea dixerit.

Expansio alarum 2 unc.

Descriptio. *Mas. Alæ primores* supra nitidissime fulvo-cupreæ, puncto disci sublunari sesquialtero, margine postico, apice et ipsa costa nigris. *Subtus* pallidiores cupreo-fulvæ punctis 10 ocellaribus pupilla majuscula nigra iride alba, tres anticæ subtus costam longitudinaliter positæ, 7 posticæ in striga transversa versus costam parum arcuata; præter has, striga punctorum nigrorum sine iride ad marginem posticum: demum margo albicans. *Alæ inferiores* subemarginatæ *supra* nitidissime fulvo-cupreæ, puncto oblongo disci, marginibusque nigris; in margine postico maculis 5 subtrigonis nigris introrsum spectantibus: *subtus* pallide-cœruleæ punctis numerosis nigris subocellaribus, 5 anticis sparsis, pone has lineola nigra, tunc striga postica undata ex punctis 9, omnibus cum lineola, albo cinctis pro iride; tandem fascia cuprea ad marginem posticum (quæ margines haud attingit,) singulo latere punctis 8 nigris sine iride: denique margo albida.

Femina mari subtus omnino simillima, sed supra valde discrepat, unde nomen; *alæ priores supra* paulo obscuriores quam in mare, maculis 10 nigris, 3 anteriores subtus costam longitudinaliter positæ, 7 in striga postica arcuatæ; margo posticus magis fuscus quam in mare. *Alæ inferiores* fuscæ, venis fasciaque postica sexdentata (quæ margines haud attingat) cupreis. In utroque sexu antennæ nigræ albo annulatæ, ciliis alarum omnium albidis utrinque.

P. P. R. (The middle Copper) Alis subangulatis igneo-cupreis margine fusco, subtus punctis nigris, posticis aliquo albis. *Virgauriæ.* 52. *

Linn. Faun. Suec. 1079.—*Linn. Syst. Nat. tom. 2. p.* 793. 253.—*Gmel. Syst. Nat.* 1. 2259.—*Turt. Syst. Nat. p.* 145.—*Hesperia Virgauriæ Fab. Ent. Syst.* 3. 309. 273.—*Fab. Syst. Ent.* 527. 354.—*Fab. Mant. Ins.* 79. 724.—*Fab. Sp. Ins.* 126. 569.—*Villars Ent.* 2. 71. 126.—*Hüb. Schmet. pl.* 70. 349-51.—*Pap. Virgauriæ Panz. Faun. Germ.....*—*Scop. Carn.* 462.—*Müll. Zool. Dan.* 1331.—*Faun. Ingr.* 212. 648.—*Esper Schmet. t.* 22. *f.* 2.—*Lewin's Pap. pl.* 41. *f.* 1. 2.—*Donov. Br. Ins. pl.* 173. *Mas.*—*Schæf. Icon.* 97. *f.* 7.

Habitat *Imago* f. Aug. Paludibus: rarissime apud nos.

Expansio alarum 1 unc. 6 lin.

Larva viridis linea dorsali flavicante, laterali pallidiore; capite nigro. *Fab.*

Descriptio. *Imago. Mas* supra simillimus præcedenti, at fere duplo minor et absque punctis disci. *Subtus alæ anticæ* pallide fulvæ seu lutescentes punctis nigris vix ocellatis, 3 anticæ longitudinaliter positæ versus costam; tunc 7 in striga undulata, aliæque fere obliteratæ ad marginem posticum. *Alæ posticæ* griseo lutescentes punctis paucioribus nigris, et aliis aliquo majoribus albis, punctisque fulvis versus angulum ani ubi alæ paulo emarginatæ sunt. *Femina* a mare omnino discrepat. *Supra* magis obscura. *Alæ anticæ* punctis numerosis fasciaque fere marginali ex maculis confluentibus fuscis. *Alæ posticæ* fuscæ potius quam fulvæ; venis, macula majuscula quadrata, aliisque minoribus et obscurioribus disci fulvis; fasciaque nodosa seu valde sexdentata ad marginem posticum itidem fulva. *Alæ omnes subtus* fere ut in mare.

P. P. R. (The purple-edged Copper) Alis subangulatis igneo-cupreis puncto nigro, marginibus fusco-purpurascentibus, subtus canescentibus punctis ocellaribus numerosis. *Chryseis.* 53. *

Hesperia Chrysais Fab. Ent. Syst. 3. 309. 174.—*Hüb. Schmet. pl.* 68. 337. 8. *et* 71. 355.—*P. Hipponoe Mas Esper Schmet. t.* 62.

t. 62. *f.* 2.—*Gmel. Syst. Nat.* 1. 2359.—*Turt. Syst. Nat. p.* 145.—*Vill. Ent.* 4. 436.—*Schæf. Icon.* 280. 1. 2.—*Merrett's Pinax*, 199. 1.

Habitat in Paludibus rarissime; *Imago* autumno tempore.

Expansio alarum 1 unc. 5 lin.

Descriptio. P. Hippothoe Linn. valde affinis, sed differt alis subangulatis nec integris. *Alæ omnes* supra nitide-cupreæ, puncto disci, marginibusque fusco-purpurascentibus. *Anticæ subtus* disco lutescente marginibus cinerascentibus, punctis ocellaribus numerosis, pupillo nigro iride alba, 3 anticis longitudinaliter positis, 6 in striga pone medium undata, et 6 ad marginem posticum fere obliteratis. *Alæ posticæ subtus* cinerascentes punctis numerosis ocellaribus, 10 vagis ante medium, et circiter 22 in strigis tribus posticis; præterea macula una alterave fulva versus angulum ani: ciliis omnium supra albicantibus, subtus fuscescentibus.

Femina supra magis obscura et nigro magis maculata quam in femina præcedentis.

Phlæas. 54. P. P. R. (The common Copper) Alis subangulatis igneo-cupreis nigro maculatis, posticis subtus cinerascentibus striga postica fulva.

Linn. Faun. Suec. 1078.—*Linn. Syst. Nat. tom.* 2. *p.* 793. 252.—*Gmel. Syst. Nat.* 1. 2258.—*Turt. Syst. Nat. p.* 146.—*Hesperia Phlæas Fab. Ent. Syst.* 311. 178.—*Fab. Syst. Ent.* 527. 355.—*Fab. Mant. Ins.* 80. 727.—*Fab. Spec. Ins.* 126. 570. *Villars Ent.* 2. 70. 125.—*Hüb. Schmet. pl.* 72. 362-3.—*Esper Schmet. t.* 22. *f.* 1.—*Lewin's Pap. pl.* 41.—*Harris Aur. t.* 34. p.—*Schæf. Icon.* 143. 3. 4.—*Raj. Ins.* 125. 20.—*Pet. Pap. t.* 4. *f.* 13. 14.—*Pet. Mus.* 317.

Habitat *Imago* i. Apr. i. Jun. i. Aug. Compascuis frequens.

Expansio alarum 1 unc. 4 lin.

Descriptio. *Alæ anticæ* nitide-cupreæ margine postico maculisque 10 disci nigris, tres anticæ longitudinales, 7 pone medium transversæ, plus minusve confluentes. *Subtus* fere ut supra, at pallidiores et obscuræ nec nitidæ, margine postico cinerascente. *Alæ posticæ supra* nigræ, fascia quinquedentata cuprea ad marginem posticum; *subtus* cinerascentes punctis numerosis fere obliteratis, et in loco fasciæ, striga fulva obscurior. *Femina* mari omnino simillima.

††† Cœruleæ (*Blues or Arguses*). *Alis integerrimis rotundatis, masculinis cœruleis (exceptis Idæ et Artaxerxe),*

Artaxerxe), *femineis fuscis seu fusco-cœruleis, subtus punctis subocellaribus ut in præcedentibus.*

+ Multipunctatæ (*Many-spotted*). *Alis anticis subtus strigis plurimis punctorum.*

P. P. R. (The large Blue) Alis cœruleis limbo maculisque atris, subtus canescentibus punctis ocellaribus. *Arion.* 55. *

Linn. Faun. Suec. 1073.—*Linn. Syst. Nat. tom.* 2. *p.* 789. 230. —*Gmel. Syst. Nat.* 1. 2346.—*Turt. Syst. Nat. p.* 138.—*Hesperia Arion Fab. Ent. Syst.* 3. 293. 118. (*excluso syn. Schæfferi.*)—*Fab. Syst. Ent.* 524. 345.—*Fab. Mant. Ins.* 71. 681.—*Fab. Spec. Ins.* 122. 549.—*Villars Ent.* 2. 65. 119. (*excl. syn. Schæfferi.*)—*Lewin's Pap. pl.* 37. 1. 2.—*Hüb. Schmet. pl.* 54. 254-6.—*Donov. Br. Ins. pl.* 184. *Fem.*—*Esper Schmet. t.* 20. *f.* 2.—*Müll. Zool. Dan.* 1325.—*Scop. Carn.* 461. *Pap. Argus Arion.*—*Faun. Ingr.* 211. 645.—*Schæf. Icon.* 211. 2.?—*Roes. Ins. class.* 2. *t.* 45. *f.* 3. 4. *Fem.*

Habitat *Imago* i. Julio Compascuis valde infrequens. In Bedfordia capta et ad me missa amico meo C. Abbott, D. D.

Expansio alarum 1 unc. 7 lin.

Descriptio. *Alæ omnes* supra cœruleæ, venis, marginibus, lunula disci, maculisque 5 tranversis in disco primorum nigris. *Alæ anticæ subtus* canescentes, maculis 8 ocellaribus, 2 in media, 6 in striga transversa pone medium undulata, pupilla majuscula nigra iride alba; præterea ordines duo punctorum absque iride, ad marginem posticum. *Alæ posticæ subtus* canescentes, basi virescentes, punctis ocellaribus 12 sparsis, præterea lunula disci ocellaris, et ordines duo punctorum nigrorum absque iride, ad marginem posticum.

Femina discrepat a mare supra maculis majoribus et saturatioribus et subinde numerosioribus, marginibusque alarum supra magis fuscis; ciliis in utroque sexu supra albis, subtus itidem albis sed fusco interruptis.

P. P. R. (The Chalk-hill Blue) Alis argenteo-cœruleis fascia marginali atra, subtus canescentibus punctis ocellaribus numerosis, ciliis supra nigro punctatis. *Corydon.* 56.

Gmel. Syst. Nat. 1. 2348.—*Turt. Syst. Nat. p.* 140.—*Hesperia Corydon Fab. Ent. Syst.* 3. 298. 133.—*Fab. Mant. Ins.* 74. 693.—*Hüb. Schmet. pl.* 59. 286-8.—*Villars Ent.* 2. 136. —*Lewin's Pap. pl.* 36. 1. 2. 3.—*Donov. Br. Ins.* 231. *f.* 1. *Mas.*—*Esper Schmet. t.* 33. *f.* 4.—*Pap. Argus Coryaon Scop. Carn.* 179.—*Roes. tom.* 1. *t.* 14. *f.* 3. 4. *Mas.*—*Schæf. Icon. t.* 98.

t. 98. 5. 6. *Mas. et* 276. 1. 2. *Fem.*—*Raj. Ins.* 131. 14. *Mas. et* 131. 15. *Fem.*—*Pet. Gaz.* 35. 2. *Mas.*—*Pet. Pap. t.* 6. 1. 2. *Mas, mala.*—*Pet. Mus.* 319.

HABITAT *Imago* i. Jul. Cretaceis, infrequens.

EXPANSIO alarum 1 unc. 6 lin.

DESCRIPTIO. *Mas. Alæ omnes supra* cœruleo-argenteæ nitidæ marginibus posticis fuscis; *inferiores* punctis 5 ocellaribus ad marginem posticum in utroque sexu. *Subtus alæ anticæ* albidæ punctis ocellatis fere ut in præcedente. *Alæ posticæ* itidem albidæ griseo nebulosæ basi virescentes, punctis circiter 11 sparsis ocellatis, pupillo nigro iride albo, præterea maculis duabus albis disci, punctis obsoletis fuscis, et maculis angulatis aliquo fulvis ad marginem posticum. *Femina supra* fusca, singulis alis puncto disci pallidiore, quod in anticis pupillatus est punctulo nigro. *Subtus* ut in mare, at pallide grisea nec albida.

Adonis. 57.

P. P. R. (The Clifden Blue) Alis cœruleo-argenteis, striga marginali atra, subtus cinerascentibus punctis ocellaribus numerosis, ciliis utrinque nigro punctatis.

Gmel. Syst. Nat. 1. 2349.—*Hesperia Adonis Fab. Ent. Syst.* 3. 299. 134.—*Fab. Mant. Ins.* 75. 694.—*Lewin's Pap.* 38. 1. 2. 3. —*P. Bellargus Esper Schmet. t.* 32. *f.* 3.?—*Pap. Bellargus Vill. Ent.* 4. 417.—*Pap. Ceronus Hüb. Schmet. pl.* 61. 295-7.? —*Pap. Argus Femina Donov. Br Ins.* 143. 1. *fig. inf. nec superiores quæ ad Pap. Icarum pertinent. P. Argus Linn. &c. est longe diversa.*—*Schæf. Icon.* 98. 3. 4.—*Pap. Bellargus Müll. Lep. Silesiaca, Mas.*...

HABITAT *Imago* f. Mai. m. Aug. Cretaceis infrequens.

EXPANSIO alarum 1 unc. 5 lin.

DESCRIPTIO. *Larva* viridis lineis dorsalibus macularum fulvarum. *Fab.*

IMAGO. Præcedente paulo minor. *Mas* supra lætissime cœruleus seu cœruleo-argenteus nitidus, omnium nostratum cœruleorum sine dubio longe præstantior. *Femina supra* fusca puncto nigro in disco cœrulescente. *Alæ posticæ* maculis fulvis nigrisque ad marginem posticum: *subtus* grisescentes: in mare cinerascentes: in utroque cæteris ut in præcedente; at punctis magis ocellatis, maculis marginalibus magis fulvis, ciliisque utrinque maculis fuscis.

OBS. Adonis, being by far the most lovely of the British Blues, is much sought after by our inferior collectors; who make annual and distant pedestrian excursions, for the sole purpose of procuring its charming males, to decorate their pictures with; a picture, consisting of numerous and beautiful Lepidoptera,

doptera, ornamentally and regularly disposed, being the ultimate object of these assiduous people in the science of Entomology. These pictures are of various shapes and sizes: I have seen some which have contained 500 specimens.

P. P. R. (The common Blue) Alis sericeo-cœruleis striga marginali atra, anticis subtus punctis ocellaribus 9, ciliis albis. *Icarus.* 58.

Pap. Icarus Vill. Ent. 2. 74. 133.—*P. Argus Wilks, pl.* 119.—*Pap. Icarus Lewin's Pap.* 38. 4. 5 8.—*P. Icarus Esper Schmet. t.* 32. 4. *Mas.*—*Pap. Argus Mas Donov. Br. Ins.* 143. (*nec aliorum auctorum*) *figuræ superiores. Figura infra est Adonis Fem. ut supra diximus.*—*P. Alexis Hüb Schmet. pl.* 60. 292-4.—*Raj. Ins.* 131. 11. *Mas. et* 131. 12. *Fem. et iterum* 131. 13. *Fem. disco magis cæruleo, excluso synonymo Pet. Gaz. quæ Idas nobis est; sed non Idas Linn. Fab. vel Gmelin, quæ ultima tantum Fem. Argi est.*—*Schæf. Icon.* 255. 1. 2. *Fem. et* 168. 6. 7. *iterum Fem.*—*Pet. Gaz.* 25. 1. *Mas. et* 25. 3. *Fem.*—*Pet. Pap. t.* 6. *f.* 4. *Mas.* 3 *et* 5. *Fem.*—*Pet. Mus.* 319. —*Roes. Ins. cl.* 2. *t.* 37. *f.* 5.—*Merrett's Pinax*, 199. 4. *Mas.*

Habitat *Larva* in Graminibus f. Ap. f. Jul. *Imago* f. Mai. f. Aug. in Pascuis vulgaris.

Expansio alarum 1 unc. 4 lin.

Descriptio. *Mas* supra nitidissime et suave cœruleus seu quasi sericeus linea marginali sola nigra. *Femina* supra fusca disco plus minusve cœruleo vel subinde omnino fusco, striga communi ad marginem posticum macularum fulvarum et altera in *posticis* punctorum nigrorum marginali. *Subtus* in utroque sexu fere ut in duabus præcedentibus, sed absque macula centrali alba disci inferiorum.

P. P. R. (The light Blue) Alis cœruleis striga marginali atra, anticis subtus punctis ocellaribus 6. *Hyacinthus.* 59.

P. Hyacinthus Lewin's Pap. 37. 4. 5. 6. *nec Fab.*—*Turt. Syst. Nat. p.* 139.

Habitat in Cretaceis m. Jul. rarissime.

Expansio alarum 1 unc. 4 lin.

Descriptio. Nimis affinis præcedenti et vix distinctus: differt præcipue, *alis anticis subtus* prope basin immaculatis; ut in tribus sequentibus; nec ocellis duobus transversim positis versus basin ut in præcedente; ciliis supra aliquo fusco subpunctulatis; feminâ magis cœruleâ. Forte hybrida ex duabus præcedentibus.

β *Varietas Feminæ*, minor, ocellis in superioribus numerosioribus, in inferioribus paucioribus quam in α.

P. Agestis Hüb. Schmet. pl. 62. 303. 4.?

P. P. R.

Argus. 60. P. P. R. (The silver-studded Blue) Alis saturate cœruleis, posticis subtus limbo fulvo maculato ocellis cœruleo-argenteis.

Linn. Faun. Suec. 1074. *Mas.*—*Pap. Idas Linn. Faun. Suec.* 1075. *Fem.* (*excluso synonymo Raii.*)—*Linn. Syst. Nat. tom.* 2. *p.* 789. 232.—*Gmel. Syst. Nat.* 1. 2347. α *Mas et* β *Femina.*—*Turt. Syst. Nat. p.* 139.—*Hesperia Argus Fab. Ent. Syst.* 3. 296. 128.—*Fab. Syst. Ent.* 525. 346.—*Fab. Mant. Ins.* 74. 690.—*Fab. Spec. Ins.* 123. 550.—*Pap. Argus Lewin's Pap.* 39. 5. 6. 7. *nec Donovani.*—*Berk. Out.* 1. 129. 33. *Hüb. Schmet. pl.* 64. 316. 18.?—*Pap. Argus Scop. Carn.* 177.?—*Faun. Ingr.* 211. 646.—*Müll. Zool. Dan.* 1327.—*P. Argus* β *Idas Esper Schmet. t.* 20. *f.* 4. *Femina.*—*Schæf. Icon.* 29. *f.* 3. 4.—*Pet. Pap. t.* 6. *f.* 6 *et* 8. *Mas.* 7 *et* 9. *Fem.*

Habitat *Larva* in Graminibus f. Ap. *Imago* m. Jul. certis Compascuis frequens, alibi valde infrequens.

Expansio alarum 1 unc. 3 lin.

Descriptio. Maris *alæ supra* saturate cœruleæ, margine nigro ciliis albis, *subtus* cœrulescentes præcipue ad basin, punctis ocellaribus maculisque fere ut in præcedente; et ad marginem posticum posteriorum punctis sex cœruleo-argenteis, in fascia macularum fulvarum. *Femina supra* omnino fusca; *subtus* grisea; in *alis posticis* fascia dentata aliquo alba ante fasciam fulvam.

Idas. 61. P. P. R. (The brown Argus) Alis supra in utraque sexu fuscis maculis marginalibus rufis, subtus cinereis punctis ocellaribus.

Pet. Gaz. t. 25. *f.* 4.—*P. Ages'is Hüb. Schmet. pl.* 62. 305-6.—*Pet. Pap. t.* 6. *f.* 10.—*P. Idas Lewin's Pap. pl.* 39. 1. 2. *nec Linnæi, quæ est vera Femina præcedentis ut supra diximus.*—*P. Idas Donov. Br. Ins.* 322. 2. "*This insect must not be confounded with the Papilio Idas of Linnæus. The Linnæan* "*P. Idas is evidently the female of P. Argus; a circumstance* "*unknown to that author, who considers them as distinct species,* "*from their very dissimilar appearance.*" *Donov. Br. Ins.* l. c.

Obs. The above remarks are very appropriate, and worthy my transcription: but they render it necessary to keep in mind, that the *Papilio Argus* of *Donovan's Br. Ins.* is not, in either of its sexes, the *Papilio Argus* of *Linnæus or other Authors*; its *male* being the *Pap. Icarus* of *Lewin* and of this work; and its *female* being the *Pap. Adonis* of *Fabricius*, &c. Vide the synonyma I have given, under *P. Icarus* and *P. Adonis*. *The genuine Argus* of *Linnæus* is not figured by *Donovan* at all.

Obs. 2. What I have above remarked relative to *Idas* being a distinct species with *Linnæus*, must be applied to his *Fauna Suecica*

Suecica alone: for in the 13th edition of his *Systema Naturæ*, (which I did not possess at the time my remarks were written,) I find he makes the species *Idas* of the *Fauna*, the proper female of his *Argus:* thereby laudably and liberally correcting in maturer years, this error of his youth.

Habitat *Larva* in Graminibus f. Ap. f. Jun. *Imago* in Agris f. Mai. m. Jul. rarius.

Expansio alarum 1 unc. 2 lin.

Descriptio. Præcedentibus minor, supra in utroque sexu fusca, sine ulla tinctura cœrulea in qua affinibus notabiliter differt, puncto nigro disci primorum, ordineque communi macularum rufarum ad marginem posticum, ciliis albis. *Subtus* cinerea, notis fere ut in præcedente, sed absque punctis cœruleo-argenteis. Femina a mare paulo discrepat, colore saturatiore seu magis fusco, maculis rufis minoribus quæ marginem costalem non attingunt.

P. P. R. (The Scotch Argus) Alis nigris, anticis puncto medio utrinque albo, posticis lunulis rufis, subtus margine albo rufo punctato. *Artaxerxes.* 62.

Hesperia Artaxerxes Fab. Ent. Syst. 3. 297. 129.—*Papilio Artaxerxes Lewin's Pap. pl.* 39. 8. 9.—*Turt. Syst. Nat. p.* 139.

Habitat *Imago* f. Julii in Pratis Scotiæ rarissima; nec in Anglia ut Cl. Fabricius ex errore dixerat. Exemplarium meum in Scotia captum erat et ad me missum amicissimo meo F. Skrimshire, M. D.

Obs. *Hesperia Titus Fab. Ent. Syst.* 3. 297. 130. nunquam invenitur in Angliavel alibi in Magna Britannia, ut Cl. Fab. loco citato ex informatione erronea dixerat.

Expansio alarum 1 unc. 1 lin.

Descriptio. Præcedenti simillima at minor, maculis albis sine pupilla *subtus*, loco ocellorum. *Alæ supra* fuscæ fascia communi lunularum rufarum ad marginem posticum punctoque albo disci primorum utrinque. *Subtus* cinerascentes, *anticæ* fascia postica alba ex maculis 6 contiguis; pone has maculis 5 itidem contiguis transversis rufis, singulis utrinque lunula minuta nigra alteraque alba munitis: linea marginali atra et ad terminos venarum latius atra seu quasi punctata, ciliis albis; *alæ posticæ subtus* fere ut in præcedente, sed maculis rotundis albis epupillatis loco ocellorum.

\+ \+ Paucipunctatæ (*Small-spotted*). *Alis anticis subtus striga unica punctorum.*

P. P. R. (The azure Blue) Alis læte cœruleis apice nigris, subtus azureis punctis numerosis difformibus nigris. *Argiolus.* 63.

Linn. Faun. Suec. 1076.—*Linn. Syst. Nat. tom.* 2. *p.* 790. 234. —*Gmel. Syst. Nat.* 1. 2350.—*Turt. Syst. Nat. p.* 138.—*Fab. Ent. Syst.* 3. 295.—*Hesperia Argiolus Fab. Syst. Ent.* 525. 347.—*Fab. Mant. Ins.* 73. 686.—*Fab. Spec. Ins.* 123. 551. —*Berk. Syn.* 1. 129. 34.—*Müll. Zool. Dan.* 1328.—*P. Acis Hüb. Schmet. pl.* 57. 272-4.—*Faun. Ingr.* 211. 645.—*Lewin's Pap.* 36. 4. 5. 6.—*Smith's Georg. Ins. t.* 15.—*Raj. Ins.* 132. 16.—*Pet. Pap. t.* 6. *f.* 11. *et* 13. *Mas.* 12. *Fem.*—*P Argus marginatus De Geer Gen. Ins.* 30. 3.

Habitat *Larva* in Graminibus. *Imago* m. Mai. et f. Aug. Sylvaticis rarius.

Expansio alarum 1 unc. 5 lin.

Descriptio. *Femina*, mare paulo pallidior, apice primarum alarum quadruplo latius nigra. *In utroque sexu subtus, alæ anticæ* lunula media punctisque 5 oblongis nigris in striga transversa. *Alæ posticæ subtus* punctis minoribus 12 sparsis, ciliis albis nigro punctatis.

Cymon. 64. ♂ P. P. R. (The Mazarine Blue) Alis saturate cœruleis linea marginali nigro, subtus striga unica communi punctorum ocellatorum.

Pap. Cymon Lewin's Pap. pl. 38. 6. 7.—*P. Argiolus Hüb. Schmet. pl.* 56. 267-9.—*Roesel. Ins. cl.* 2. *t.* 37. *f.* 3. 4.—*P. Argiolus Esper Schmet. t.* 21. *f.* 1.—*Schæf. Icon.* 185. 1. 2.?—*Raj. Ins.* 132. 17.

Habitat *Imago* m. Mai. f. Jul. in Cretaceis, rarissima fere omnium nostratum cœruleorum; at nuper capta, et ad me missa, in comitatu Ebor. amicissimo meo P. W. Watson, et etiam in Norfolcia amicissimo meo J. Burrell, M. A.

Expansio alarum 1 unc. 4 lin.

Descriptio. Femina supra tota nigra, ciliis cinereis. *Alæ omnes maris supra* percœruleæ linea marginali nigro ciliis albis; *subtus* cinerascentes, basi cœrulascentes: *feminæ* magis grisescentes, *posticis* tantum cœrulescentibus ad basin. *In utroque sexu anticæ* puncto oblongo disci cincto albo, strigaque pone medium ex punctis ocelliformibus 5 in mare, et 7 in femina. *Alæ posticæ subtus* puncto solitario basi subtus costam, altero oblongo disci, præcipue in femina, strigaque pone medium undata et interrupta ex punctis 8, omnibus pupilla nigra iride alba.

Alsus. 65. P. P. R. (The small Blue) Alis fuscis basi cœruleo irroratis, subtus canis, striga unica communi punctorum ocellatorum.

Gmel. Syst. Nat. 1. 2350.—*Turt. Syst. Nat. p.* 139.—*Hesperia Alsus Fab. Ent. Syst.* 3. 295. 125.—*Fab. Mant. Ins.* 73. 688.—*Hüb. Schmet. pl.* 58. 278. 9.—*Lewin's Pap. pl.* 39.

pl. 39. 3. 4.—*Donov. Br. Ins. pl.* 322. 1.—*Pap. minimus Vill. Ent.* 2. 75. 139. *et* 4. 419.—*P. minimus Esper Schmet. t.* 34. *f.* 3.—*Schæf. Icon.* 165. 1. 2.

HABITAT *Imago* f. Mai. i. Jul. Agris rarius.

EXPANSIO alarum 1 unc.

DESCRIPTIO. Omnium nostratum hujus generis sine dubio minimus est. *Alæ omnes supra* fuscæ, basi paulo cœruleo micantes, ciliis albicantibus: *Subtus anticæ* canescentes, lunula media punctisque posticis 7 transversis albo cinctis; *posticæ subtus* puncto solitario ante medium fere costali, punctisque circiter 8 posticis tranversis nigris annulo albo; *femina* utrinque paulo obscurior ut in affinibus.

******* PLEBEII URBICOLI (*Skippers and Grizzles*). *Statura parva. Alis divaricatis integerrimis, posticis sæpe maculis subpellucidis. Antennis apice plus minusve uncinatis. Corpore (pro ratione magnitudinis) robustiore quam in præcedentibus.*

P. P. U. (The chequered Skipper) Alis supra nigris fulvo maculatis, posticis subtus maculis circiter 12 albicantibus. *Paniscus.* 66. ♂

Gmel. Syst. Nat. 1. 2361.—*Turt. Syst. Nat. p.* 154.—*Hesperia Paniscus Fab. Ent. Syst.* 3. 328. 242.?—*Fab. Syst. Ent.* 531. 377.—*Fab. Mant. Ins.* 85. 767.—*Fab. Sp. Ins.* 599.—*Esper Schmet. t.* 28. *f.* 2.—*Donov. Br. Ins. pl.* 254. 1.—*P. Brontes Hüb. Schmet. pl.* 94. 475. 6.—*P. Paniscus Vill. Ent.* 2. 82. *t.* 4. *f.* 14.—*P. Sylvius Vill. Ent.* 4. 424.—*Rœmer Gen. t.* 19. *f.* 8. 9.—*Sulz. Ins. t.* 19. *f.* 8. 9.

HABITAT *Imago* Sylvaticis f. Mai. rarissima, sed prope Bedfordium frequentius capta et ad me missa amico meo C. Abbott, D. D.

EXPANSIO alarum 1 unc. 3 lin.

DESCRIPTIO. *Alæ omnes supra* nigræ, fulvo maculatæ, *anticæ* litura media: tunc quasi fascia interrupta pone medium, venis nigris tantum intersecta: pone hanc maculis duabus minoribus posticis: tandem striga punctorum marginali fulvis: *posticæ* nigræ, maculis tribus disci, ordineque punctorum versus marginem posticum fulvis; ciliis undique itidem fulvis. *Subtus anticæ* flavicantes maculis 3 disci, tunc 4 minoribus posticis, venisque ad marginem posticum fuscescentibus. *Posticæ* flavicantes vel rarius grisescentes venis fuscis, maculis 7 majoribus disci, et 5 minoribus in striga postica albicantibus.

Comma. 67. * P. P. U. (The silver-spotted Skipper) Alis anticis griseis fulvo maculatis, punctis quadratis albidis, posticis subtus griseo-virescentibus maculis quadratis albissimis.

Linn. Faun. Suec. 1080.—*Linn. Syst. Nat. tom.* 2. *p.* 793. 256. —*Gmel. Syst. Nat.* 1. 2360.—*Turt. Syst. Nat. p.* 153.—*Hesperia Comma Fab. Ent. Syst.* 3. 325. 233. (*exclusis synonymis Pet. Gaz.* 34. 7. 8. 9. *quæ sunt Sylvanus et Linea.*) —*Fab. Syst. Ent.* 531. 374.—*Fab. Mant. Ins.* 84. 761.—*Fab. Sp. Ins.* 131. 595.—*Villars Ent.* 2. 79. (*excl. syn. Pet. Gaz.* 34. 7. 8. 9.)—*Berk. Syn.* 1. 130. 38.—*Hüb. Schmet. pl.* 95. 479-81.—*Müll. Zool. Dan.* 1332. *sequente confunditur.*—*Faun. Ingr.* 212. 649.—*Scop. Carn.* 463.—*Lewin's Pap. pl.* 45. *f.* 1. 2.—*Esper Schmet. t.* 23. *f.* 1.—*Donov. Br. Ins. pl.* 295. *Fem.*—*Schæf. Icon. t.* 260. 1. 2. *Mas. et* 274. 1. 2. *Fem.*—*De Geer Ins. tom.* 2. *pl.* 1. *f.* 4. 5.—*Merrett's Pinax*, 199. 9.—*P. Virgula De Geer Gen. Ins.* 31. 7.

Habitat *Imago* f. Aug. Cretaceis rarissima.

Expansio alarum 1 unc. 3 lin.

Descriptio. *Larva* rubro-micans capite nigro collari striga alba. *Fab.*

Puppa elongata cylindrica. *Fab.* l. c.

Imago. *Alæ anticæ supra* griseæ maculis obscure fulvis punctisque 5 difformibus versus apicem albis utrinque. *Subtus* pallidiores, litura a basi post medium griseo-fusca apicibus virescentibus. *Alæ posticæ supra* grisescentes vel griseæ, maculis fulvis obscuris; *subtus* griseo-virescentes (in fem. virescentes) maculis 9 quadratis albissimis, quarum 3 versus basin, 6 pone medium in fascia incurvata concatenatæ: ciliis cinereis subtus fusco punctatis. Maculæ omnes utrinque postice emarginatæ. *Mas* discrepat a *femina*; *anticæ* basi lineola nigra crassa utrinque, notis omnibus magis obscuris; supra minus griseus, subtus minus virescens.

Sylvanus. 68. P. P. U. (The large Skipper) Alis griseis fulvo maculatis, subtus fulvo-flavescentibus maculis obscuris pallidioribus.

Gmel. Syst. Nat. 1. 2361.—*Turt. Syst. Nat. p.* 153.—*Hesperia sylvanus alis divaricatis fuscis maculis quadratis supra flavis subtus albis Fab. Ent. Syst.* 3. 326. 237.—*Fab. Mant. Ins.* 84. 763.—*Villars Ent.* 2. 82.—*Hüb. Schmet. pl.* 95. 482-4. —*Esper Schmet. t.* 36. *f.* 1.—*Lewin's Pap.* 46. 1. 2. 3.—*Schæf. Icon.* 276. 5. 6. *Fem.* ?—*P. Comma Scop. Carn.* 463. —*Donov. Brit. Ins. pl.* 254. 2. *Mas.*—*Harris Aur. t.* 42. *b. Pet. Gaz.* 34. 7. *Fem. et* 34. 8. *Mas.*—*Pet. Pap. t.* 6. *f.* 16. *Mas.* 17. *Fem.*

Habitat *Imago* Sylvaticis f. Mai. f. Jul. frequens.

EXPANSIO alarum 1 unc. 4 lin.

DESCRIPTIO. Statura omnino præcedentis at paulo major. *Supra alæ anticæ* griseæ venis fuscis, linea marginali nigra, maculis oblongis anticis, punctisque quadratis versus apicem (omnibus postice emarginatis) fulvis, sed subtus obsolete flavicantibus. *Alæ posticæ* supra griseæ venis fuscis, linea marginali nigra, punctis 5 quadratis postice emarginatis fulvis (subtus flavicantibus) in fascia pone medium incurva. *Alæ omnes* in utroque sexu *subtus* pallidiores et obscure virescentes, *anticæ* basi anguloque ani, late fulvis maculaque oblonga nigra basi; ciliis fulvis. *Mas* discrepat a *Femina* linea nigra basi obliqua in alis anticis: et *supra* characteribus paulo obscurioribus.

P. P. U. (The small Skipper) Alis supra fulvis venis fuscis margine nigro, posticis subtus cinerascentibus angulo ani fulvo. *Linea.* 69.

Gmel. Syst. Nat. 1. 2230.—*Pap. Thaumas Turt. Syst. Nat. p.* 153. —*Hesperia Linea Fab. Ent. Syst.* 3. 326. 236.—*Fab. Mant.* 84. 792.—*Hüb. Schmet. pl.* 96. 485-7.—*Pap. Thaumas Lewin's Pap. pl.* 45.—*Pap. Thaumas Esper Schmet. t.* 36. *f.* 2. 3.—*Donov. Br. Ins. pl.* 236. 2. *Mas.*—*Harris Aur. t.* 42. *i.*—*Pap. flavus Müll. Zool. Dan.* 1333.—*Schæf. Icon.* 234. 5. 6. *Fem.*—*Pap. Comma Barbut's Gen. pl.* 10. *f.* 256.—*Raj. Ins.* 125. 21. *Mas. et* 125. 22. *Fem.*—*Pet. Gaz. t.* 34. *f.* 9. *Mas.*—*Pet. Pap. t.* 6. *f.* 15. *Mas. bona.* 14. *Fem. mala.*

HABITAT in Sylvis m. Jul. satis frequens.

EXPANSIO alarum 1 unc. 2 lin.

DESCRIPTIO. Larva solitaria viridis immaculata. *Fab.*

PUPPA tenuissime folliculata, viridis. *Fab.*

IMAGO. Statura omnino præcedentium at minor. *Alæ supra* fulvæ immaculatæ venis marginibusque nigris. *Subtus anticæ* pallidiores basi fuscæ apice cinerascentes: *posticæ* fulvo-cinerascentes macula magna fulva ad angulum ani. *Mas* discrepat a *Femina* lineola obliqua nigra in medio anticarum alarum, versus apicem spectante, ut in duabus præcedentibus.

P. P. U. (The dingy Skipper) Alis fuscis subtus griseis; punctis albidis albisque numerosis obsoletis utrinque. *Tages.* 70.

Linn. Faun. Suec. 1082.—*Linn. Syst. Nat. tom.* 2. *p.* 795. 268. —*Gmel. Syst. Nat.* 1. 2370.—*Turt. Syst. Nat. p.* 167.—*Hesperia Tages Fab. Ent. Syst.* 3. 354. 346.—*Fab. Syst. Ent.* 535. 398.—*Fab. Mant. Ins.* 92. 831.—*Fab. Spec. Ins.* 138. 643.—*Lewin's Pap. pl.* 45. 3. 4.—*Hüb. Schmet. pl.* 91. 456.

456. 7.—*Harris Aur. t.* 34. *o.*—*Schæf. Icon.* 162. 3. 4. 7. 8. —*Ent. Paris.* 247. 39.—*Raj. Ins.* 132. 18. *Fem. et* 132. 19. *Mas.*—*Esper Schmet. t.* 23. *f.* 3.—*Pet. Gaz.* 26. 3. *Fem.*—*Pet. Pap. t.* 4. *f.* 19. 20. *Fem.*—*Merreti's Pinax*, 199. 6. *Fem.*

HABITAT *Imago* i. Mai. Sylvaticis et Compascuis, infrequens prope Londinum, frequentior in Norfolcia J. Burrell, M. A.

EXPANSIO alarum 1 unc. 3 lin.

DESCRIPTIO. Statura et magnitudo P. Commatis. Alæ omnes supra fustæ, obsolete griseo-nebulosæ, punctis albidis valde obsoletis utrinque sparsis, strigaque punctorum alborum marginali: *subtus* griseæ punctis omnibus obscurioribus. *Mas* utrinque magis obscurus quam *Femina*, ut in tribus præcedentibus, et absque linea obliqua nigra alarum superiorum.

Malvæ. 71. P. P. U. (The grizzled Skipper) Alis nigris maculis numerosis albis sparsis utrinque; ciliis albis nigrisque.

Linn. Faun Suec. 1081.—*Linn. Syst. Nat. tom.* 2. *p.* 795. 268. —*Gmel. Syst. Nat.* 1. 2368.—*Turt. Syst. Nat. p.* 165.—*Hesperia Malvæ alis dentatis, &c. Fab. Ent. Syst.* 3. 350. 333. —*Fab. Syst. Ent.* 535. 396.—*Fab. Mant.* 99. 821.—*Fab. Spec. Ins.* 137. 638.—*Müll. Zool. Dan.* 1309.—*Pap. Alveolus Hüb. Schmet. pl.* 92. 466-7.—*Faun. Ingr.* 212. 650.—*Ent. Paris.* 247. 38.—*Esper Schmet. t.* 23. *f.* 2.—*Schæf. Icon.* 162. 1. 2.—*De Geer Gen. Ins.* 31. 8.—*Lewin's Pap.* 46. 8. 9. —*Berk.* 1. 130. 39.—*Harris Aur. t.* 32. 4. *m.*—*Raj. Ins.* 133. 21.—*Pet. Gaz. t.* 36. *f.* 6.—*Pet. Pap. t.* 4. *f.* 17. 18.—*Pet. Mus.* 325.

HABITAT *Imago* f. Mai. Compascuis frequens.

EXPANSIO alarum 1 unc. 1 lin.

DESCRIPTIO. *Larva* grisea capite nigro, collo punctis quatuor sulphureis. *Fab.*

PUPPA gibba cœrulescens. *Fab.*

IMAGO supra nigra vel subinde nigricans maculis numerosis albis quadratis sparsis utrinque; *subtus alæ anticæ* pallidiores maculis majoribus et minus albis: *posticæ* griseæ venis albis nigrisque, seu quasi albis nigro maculatis.

Lavatæ. 72. P. P. U. (The scarce grizzled Skipper) Alis nigris maculis numerosis lituraque oblonga albis sparsis utrinque.

Hesperia Lavatcræ alis integris, &c. Fab. Ent. Syst. 3. 353. 339.—*Gmel. Syst. Nat.* 1. 2369.—*Pap. Fritillum Turt. Syst. Nat. p.* 166.—*Fab. Mant.* 91. 825.—*Pap. Fritillum Lewin's Pap.*

Pap. pl. 46. 4. 5.—*Raj. Ins.* 132. 20.—*Pet. Gaz. t.* 26. 9.—*Pet. Pap. t.* 4. *f.* 15. 16.

HABITAT *Imago* Compascuis f. Mai. valde infrequens.

EXPANSIO alarum 1 unc. 1 lin.

DESCRIPTIO. Præcedenti nimis affinis et fere eadem: præcipue differt liturâ oblongâ albâ utrinque in medio alarum superiorum versus marginem tenuiorem, quæ subinde duplicata est, ex confluentia punctorum duorum contiguorum. Maculæ omnes albæ magis oblongæ pauloque majores quam in præcedente. *Posticæ subtus* grisescentes venis albicantibus.

ADDENDA.

IN addition to the above 72 species of British Papilio, it is here necessary to apprise my readers, that there are two figured and described in Petiver's *Papilionum Britanniæ*; and nine others described in Turton's translation of *Systema Naturæ*; which I have neither yet seen nor heard of in British cabinets; although I have examined personally, and in most instances repeatedly, about 70 collections of British Lepidoptera.

The following is a list of the Papilios that are said to be British by Petiver and Turton, and which differ specifically from each other, and from all those I have described above.

1. PAPILIO *Fritillaria tessellata serotina subtus straminea, Straw May Fritillary, pretty common in Cain-Wood. Pet. Pap. Brit. pl.* 1. *tab.* 3. *f.* 11. 12.

OBS. The above figures represent a Papilio entirely unknown to me and all my friends: it appears to have been frequent in Cain Wood in the days of the indefatigable Petiver, although now apparently lost. The above is his own character of it, although the words are not quite in the order he gave them. For the further information of my readers concerning this rare insect, I shall subjoin an explanation of the figures, which are two in number, one an obverse, the other a reverse, and both coloured.

DESCRIPTIO. *P. Dictynna* simillima magnitudine et staturâ, temporeque volandi; attamen distincta videtur. *Supra alæ omnes* fere ut in *Dictynnâ*, at forte paulo pallidiores. *Alæ anticæ subtus*, antice et disco magis fulvæ. *Alæ posticæ subtus* valde diversæ a Dictynnâ, stramineæ omnino, absque brunneo colore, venis nigris; prope basin maculæ tres quadratæ majusculæ, medio geminato, subflavæ nigro cinctæ; fascia media paulo extus arcuata, ex maculis subquadratis subflavis

subflavis numerosis conjunctis, fere in duplici ordine, nigro itidem cinctis, tunc striga ex lunulis nigris extrorsum spectantibus, dein fascia altera marginali ex maculis subflavis conjunctis conicis nigro etiam cinctis; et in singulâ maculâ, lunula nigra: denique ciliis albicantibus venis nigris interjectis.

2. Papilio *oculatus Hampstediensis ex aureo fuscus. Albin's Hampstead Eye, where it was caught by this curious person, and is the only one I have yet seen. Pet. Pap. pl. 2. tab. 5. f. 2. et* b.

Obs. Figure 2 represents a Papilio entirely new to me and all my Entomological friends; it is reversed at b. Of this very distinct, but now apparently lost species, I am sure my readers will not be displeased at the following description.

Descriptio. Magnitudo et statura omnino P. Ægeriæ. *Alæ anticæ* fuscæ, maculæ tres subtus costam, duabusque posticis, strigaque marginali flavis; ocellis duobus posticis majusculis, imo utrinque, versus angulum posticum majore, pupillis albis iridibus late nigris. *Alæ posticæ* subfuscæ præcipue prope basin striga marginali lutea, ocellisque duobus posticis, imo utrinque, ad angulum ani minore, pupillis albis iridibus nigris. *Subtus alæ anticæ* flavescentes fusco nebulosæ; striga obsoleta fere ad marginem posticum ex lunulis fuscis antrorsum spectantibus. *Posticæ* subflavæ, versus basin magis fusco-subnebulosæ, ocello parvo et fere cæco iride nigra ad angulum ani, punctisque quatuor posticis fuscis pro rudimentis ocellorum, et inter hos et marginem posticum striga obsoleta e lunulis fuscis antrorsum spectantibus.

3. Papilio *Arcanius. Turt. Syst. Nat. page* 27.

4. Papil'o *Mæra. Turt. Syst. Nat. page* 30.

5. Papilio *Phædra. Turt. Syst. Nat. page* 33.

6. Papiilo *Maturna. Turt. Syst. Nat. page* 41.

7. Papilio *Dia. Turt. Syst. Nat. page* 42.

8. Papilio *Levana. Turt. Syst. Nat. page* 42.

9. Papilio *Mnemosyne. Turt. Syst. Nat. page* 53.

10. Papilio *Titus. Turt. Syst. Nat page* 140.

11. Papilio *Hippothoe. Turt. Syst. Nat. page* 145.

2. SPHINX.

2. SPHINX. (*a*)

Fab. Gen. Ins. 139. *et* 140.
Yates Gen. 136. 2.

CHARACTERES GENERIS.

Antennæ subprimaticæ, rarissime paulo pectinatæ, utroque fine attenuatæ.

Alæ (sedentis, in *Legitimis*) opacæ dolabriformes, deflexæ seu decumbentes, vel rarius reversæ; volatu nocturno: (in *Sesiis*) sæpissime fenestratæ deflexæ vel decumbentes, volatu diurno radiis solaribus.

Corpus in *Legitimis*, subulatum percrassum, apice semper acutum et imberbe: in *Sesiis*, plerumque magis gracile et fere cylindraceum, apice subinde obtuso et imberbe, sed sæpius valde barbato.

CHARACTERES SECTIONUM.

* LEGITIMÆ (*Hawk Moths*). *Abdomine percrasso acuto imberbe, alis opacis dolabriformibus, volatu nocturno. Puppa subterranea.*

† INTEGRALES (*Intire-winged*). *Alis integris.*

†† DENTALES (*Dentated*). *Alis dentatis, vel subdentatis.*

** SESIÆ (*Humming Birds and Clear Wings*). *Abdomine* (*apiforme et crabroniforme exceptis*) *valde barbato. Alis* (*stellatarum exceptis*) *fenestratis, volatu diurno.*

† TECTÆ (*Humming Birds*). *Alis squamis minutis tectis, et inde opacis.*

†† DENUDATÆ (*Clear Wings*). *Alis plus minusve denudatis, et inde fenestratis.*

+ Apiformes (*Bees*). *Abdomine percrasso barbato.*

+ + Vespiformes (*Hornets.*) *Abdomine crasso imberbe.*

+ + + Tipuliformes (*Tipulæ*). *Abdomine gracili valde barbato.*

(*a*) Sphinges matutinæ et vespertinæ imprimis volatu sunt tardiores, ponderosiores quasi, sæpe sono obvolitantes, linguaque exerta haurientes nectar florum, nec in floribus facile quiescentes. *Linn. Animal. Spec.* 159.

* LEGITIMÆ

CHARACTERES SPECIERUM.

* LEGITIMÆ (*Hawk Moths*). *Abdomine percrasso acuto imberbe, alis opacis dolabriformibus, volatu nocturno. Puppa subterranea.*

† Integrales (*Intire-winged*). *Alis integris.*

Atropos. 1. S. L. (The Death's-Head Hawk) Alis fusco griseoque nebulosis puncto albo, posticis luteis fasciis fuscis, abdomine luteo cingulis lineaque dorsali atris.

Linn. Syst. Nat. tom. 2. p. 799. 9.—Linn. Mus. Reginæ. 348.—Gmel. Syst. Nat. 1. 2378.—Turt. Syst. Nat. p. 172.—Villars Ent. 2. 91.—Ent. Paris. 253. 8.—Fab. Ent. Syst. 2. 364. 27.—Fab. Syst. Ent. 2. 539. 11.—Fab. Mant. Ins. 2. 95. 26.—Fab. Sp. Ins. 2. 144. 23.—Hübner Schmet. no. 68. pl. 13.—Esper Schmet. 2. t. 7.—Albin's Ins. t. 6.—Sp. Atropios Panz. Faun. Germ.....—Schæf. Icon. 99. f. 1. 2.—Barb. Gen. pl. 10. f. 9.—Feusly Archiv. p. 7. pl. 3. Larva.—Berk. Syn. 1. 131. 6.—Scop. Carn. 469.—Harris Aur. t. 37.—Wilks, pl. 19.—Donov. Br. Ins. pl. 289. et 290. Larv. et Pup.—Albin's Ins. pl. 6.—Roes. Ins. Supp. cl. 1. tab. 1. f. 1-4. Larv. et Pup. et tab. 2. f. 5. 6. Imago.

Habitat (rarissime apud nos) Larva in Solano tuberoso f. Sept. *Puppa* sub Terra, *Imago* f. Oct. Hortis.

Expansio alarum M. 4 unc. 8 lin. F. 5 unc.

Descriptio. Larva solitaria caudata flava nigro punctata lineis lateralibus transversis dimidiate cœruleis viridibusque, cauda reflexa: die sub terra latet: vespere provenit: pascit. *Fab.*

Puppa brunnea stigmatibus utrinque 5 nigris. *Fab.*

Imago. Omnium Europæorum Lepidopterorum proculdubio maxima est. *Abdomen* supra et apice subinde plumbescit, maculis lateralibus prope basin luteis: macula lutea sæpe, basi alarum superiorum ad marginem tenuiorem. *Alæ posticæ* luteæ fasciis duabus fuscis; in mare subinde tribus, postica nodosa.

Obs. *Caput* nigrum. *Antennæ* fuscæ, vix thoracis longitudine, atræ, apice acuminatæ, recurvæ, supra apicem lateralem albæ. *Thorax* niger, villosus; dorsi macula magna flava: punctis duobus nigris. *Linn. Mus. Reginæ*, l. c.

Obs. 2. This grand species is at once the largest, and the only one as yet discovered of this order of insects that is endowed with the powers of voice. Almost every individual of the insect world, the Hymenopterous part excepted, is mute.

My

My tutor in Entomology once had a male and a female of *S. Atropos* brought him alive in the winged state; both which, when he had occasion to destroy them, uttered plaintive sounds, which he compared to the squeaking of a mouse.

I think I have heard the *Scarabæus stercorarius* make a faint noise, somewhat like that of a bee confined between the fingers, but much lower and less observable: perhaps it was occasioned by some imperceptible friction of the elytra against the abdomen.

The specimen of *Carabus rostratus*, which is preserved in the *Aurelian cabinet*, was observed to utter feeble sounds by my friend and brother-in-law R. Scales, who took it in Sussex; and my friend the Rev. J. Burrell assures me he has also heard this *Carabus* emit sounds. Has not *Cicindela campestris* similar powers?

Nearly all the order Hymenoptera, and many Diptera, possess the faculty of voice considerably, independent of the sounds they make in flight, from innumerable strokes given to the air by the rapid vibration of their wings.

The chirruplngs, as they are erroneously called, of the Neuroptera and others, is effected in a way not at all analogous to that of voice; but somewhat, although not exactly similar, to that made by the wings of the Hymenoptera and Diptera.

The pulsatory, and to the vulgar, portentous sounds, commonly known by the name of *Death-watches*, are produced by more than one species of insect of the *Coleoptera* and *Aptera* orders; and are occasioned by certain reiterated strokes of a particular part of their bodies (which is not the same in all the species) against some hard substance, at short, regular, and well defined intervals of time, but for purposes as yet unknown to us. Some have conceived them to be the notes of love; others those of despair; and perhaps both those conjectures are right. The *married turtle* coos for love; the *widowed one* for consolation in despair; and in both cases, nearly in the same mournful cadence. Excuse, gentle reader, these, and all my other digressions: if they are not *interesting* and *acceptable* to thee, they will be to another, whose sentiments are *more congenial to my own*.

Obs. 3. My friends the Rev. J. Burrell, Mr. W. Skrimshire Junior, and the Rev. T. Skrimshire, have found in different years, in Norfolk, a considerable number of the *Larvæ* of this large, fine, and rare species, always feeding upon potatoes, artfully concealing themselves, in the day time, on those parts of the stems of the plants which were best covered with

overshadowing leaves: but although they have fed them diligently, and completed their transformation into *Puppæ*, they have not been able to rear one up to the winged state.

In two different years I have myself had two of these noble Caterpillars (both taken on potatoes in Little Chelsea) which fed well with me, and both became remarkably fine *Puppæ*; yet I was unable to bring either of them to the *Imago* state; both perished in *Puppation*. Perhaps, in a state of nature, they perform their extraordinary metamorphoses deeper in the ground, and consequently in a moister, and more equal temperature, than most other species of Lepidoptera; and if so, the cause of their perishing in our breeding-cages is undoubtedly owing to their having in those cages, too scanty and too dry a soil.

Convolvuli. 2. S. L. (The Unicorn Hawk) Alis nebulosis, posticis subfasciatis, abdomine rufo, cingulis rubris atris albisque.

Linn. Syst. Nat. tom. 2. *p.* 798. 6.—*Linn. Mus. Reginæ*, 345.—*Gmel. Syst. Nat.* 1. 2376.—*Turt. Syst. Nat. p.* 176.—*Vill. Ent.* 2. 89. 8.—*Ent. Paris.* 254. 9.—*Fab. Syst. Ent.* 2. 374. 54. (*excluso synonymo Drurii.*)—*Fab. Ent. Syst.* 2. 544. 27. *Fab. Mant. Ins.* 2. 97. 50.—*Fab. Spec. Ins.* 2. 150. 46.—*Berk. Syn.* 1. 131. 5.—*Hüb. Schmet. no.* 70. *pl.* 14.—*Merian Eruc. pars* 2. *pl.* 25.—*Scop. Carn.* 468.—*Wilks, pl.* 20. *Larva et Puppa. pl.* 21. *Imagines.*—*Donov. Br. Ins.* 228. *et* 229. *Larv. et Pup.*—*Harris Aur. t.* 21. *a. d.*—*Müll. Zool. Dan.* 1336.—*Seba Thes.* 4. 53. *R.*—*Roes. Ins. cl.* 1. *t.* 7.—*Esper Schmet.* 2. *t.* 5.—*Schæf. Icon. t.* 98. *f.* 1. 2.—*Hill's Swam. tab.* 29. *fig.* 1. 2. 3.—*Goed. Ins.* 3. *pl. V.*—*List. Goed. fig.* 27.

Habitat (rarissime apud nos) *Larva* in Convolvulo sepium. *Puppa* sub Terra. *Imago* f. Sept. Hortis.

Expansio alarum 4 unc. 7 lin.

Descriptio. Caput cinereum. Lingua longissima spiralis subulata. Oculi magni prominuli pisiformes. Thorax fuliginoso cinereus strigis obsoletis atris. Abdomen fuliginoso-cinereum maculis utraque 5 rubris albo nigroque supra adnatis. *Alæ anticæ* cinereæ lineolis paucis vagis atris; *posticæ* pallidiores fasciis tribus nigris, harum media geminata; ciliis in omnibus alis obsolete albis fusciisque. Pedes cinerei albido annulati.

Obs. Variat interdum alis superioribus fuliginoso-cinereis nigro nebulosis, maculis abdominalibus magis rubris: forte sexus alter.

S. L. (The

S. L. (The Yellow-spotted Unicorn) Alis nebulosis posticis fasciatis, abdominis lateribus maculis luteis quinque. *5-maculatus.* 3. † *

Habitat in Anglia rarissima. Apud Chelseiam semel capta amico meo D. Drury.

Expansio alarum 4 unc. 7 lin.

Descriptio. *Imago.* Magnitudine et statura simillima præcedenti. *Alæ anticæ* cinereo fuscoque variæ striga subflexuosa versus apicem, lineolisque duabus nigris. *Posticæ* pallidæ fasciis tribus nigricantibus, harum duæ inferiores dentatæ, tertia exterior latior saturatior. Abdomen utrinque maculis luteis quinque.

S. L. (The Privet Hawk) Alis posticis roseis fasciis tribus nigris, abdomine purpureo cingulis nigris, dorso cinereo interruptis. *Ligustri.* 4.

Linn. Faun. Suec. 1037.—*Linn. Mus. Reginæ*, 347.—*Linn. Syst. Nat. tom.* 2. *p.* 799. 8.—*Gmel. Syst. Nat.* 2. 2377.—*Turt. Syst. Nat. p.* 176.—*Villars Ent.* 2. 90. 9. (*excluso synonymo Goedartii.*)—*Ent. Paris.* 253. 7.—*Fab. Ent. Syst.* 2. 374. 55.—*Fab. Syst. Ent.* 2. 545. 28.—*Fab. Mant.* 2. 97. 51.—*Fab. Sp. Ins.* 2. 150. 47.—*Berk. Syn.* 1. 131. 5.—*Donov. Br. Ins.* 248.—*Hübner Schmet. no.* 69. *pl.* 14.—*Müll. Zool. Dan.* 1337.—*Harris Aur. t.* 2. *f.* 9.—*Wilks, pl.* 22.—*Scop. Carn.* 470.—*De Geer Gen. Ins.* 33. 31.—*Merian Eruc. pars* 3. *pl.* 23.—*S. Ligustri Panz. Faun. Germ. . . . .*—*Esper Schmet.* 2. *t.* 6.—*Roes. Ins. cl.* 1. *t.* 5.—*Sepp. Ins. v.* 1. 2. *t.* 3. *Larva. t.* 4. *Imago.*—*Albin's Ins. t.* 7.—*Seba Thes.* 4. 53. *P. et* 4. 60. *f.* 19. 20.—*Raj. Ins.* 144. 1.—*Mouf. Ins.* 91. *f.* 2. *et* 181. *f.* 1.

Habitat (satis infrequens) *Larva* in Ligustro vulgari. *Puppa* sub Terra. *Imago* f. Jun. Hortis.

Expansio alarum 4 unc. 5 lin.

Descriptio. *Alæ primores* cinerascentes basi pallidæ, fascia lata fusca ad marginem tenuiorem fere a basi ad apicem longitudinaliter ducta. *Posticæ* roseæ fasciis tribus nigris. Dorsum abdominis sæpe cinereum linea nigra.

Puppa fusco-brunnea apice minime bifida.

Obs. This very fine species has been known to remain two, and even three seasons in the Puppa state, and then become winged as perfectly and beautifully as if nothing extraordinary had occurred. For a further explanation of these unusual circumstances, see my note on Puppation, in the Preface, and my observations on the Moth *Lanestrus*.

S. L. (The Pine Hawk) Alis canis margine postico albo maculato, abdomine fusco cingulis albis. *Pinastri.* 5.

Linn.

Linn. Faun. Suec. 1088.—*Linn. Syst. Nat. tom.* 2. *p.* 802. 12. —*Gmel. Syst. Nat.* 1. 2385.—*Turton Syst. Nat. p.* 173.—*Villars Ent.* 2. 96. 16.—*Fab. Ent. Syst.* 2. 367. 35.—*Fab. Syst. Ent.* 451. 16.—*Fab. Mant. Ins.* 2. 95. 33.—*Fab. Spec. Ins.* 2. 146. 30.—*Donov. Br. Ins.* 296.—*Hübner Schmet. no.* 67. *pl.* 13.—*De Geer Gen. Ins.* 33. 37.—*Roes. Ins. cl.* 1. *t.* 6. —*Sepp. Ins. v.* 1. 2. *t.* 5.—*Esper Schmet.* 2. *t.* 12.—*Scop. Carn.* 473.—*Faun. Ingr.* 213. 653.—*Schæf. Ic.* 110. 1. 2.

HABITAT rarissime prope Londinum, *Larva* in Pino. *Puppa* sub Terra. *Imago* mense Junio Truncis Pini.

EXPANSIO alarum 3 unc. 5 lin.

DESCRIPTIO. *Larva* lævis glauca linea laterali flava, caput luteum, collum luteo nigroque varium: segmenta lineis transversis 8 nigricantibus, penultimo cornuto; ultimo punctis nigris scabro: cornu nigrum scabrum, apice bifidum. *Villars* l. c.

IMAGO. Thorax lineis 3 longitudinalibus nigris. Alæ superiores in medio lineolis 3 nigris inæqualibus notatæ, plaga alba a rostro per latera thoracis et marginem exteriorem albida. Latera abdominis rubra fasciis nigris, præter lineam dorsalem et tres ventrales nigras. *Villars* l. c.

OBS. *Antennæ* infra fuscæ: variat colore griseo et undis canis fuscisque. *Villars* l. c.

Lineata. 6. *

S. L. (The striped Hawk) Alis fuscescentibus fascia longitudinali striisque obliquis albis, posticis nigris fascia longitudinali rubra.

Gmel. Syst. Nat. 1. 2383.—*Turt. Syst. Nat. p.* 174.—*S. lineata alis virescentibus fascia striisque albis, &c. Fab. Ent. Syst.* 3. 368. 39.—*Fab. Syst. Ent.* 451. 18.—*Fab. Mant. Ins.* 2. 96. 37.—*Fab. Spec. Ins.* 2. 147. 34.—*Cramer Pap. pl.* 125. *fig. D.*—*Sp. Koechlini Eyes. Arch.* 10. *t.* 4.—*Wien. Verz. fig. sinist. superior, in frontisp.*—*Sp. lineata Panz. Faun. Germ.* —*Smith's Georg. Ins. t.* 39.—*Donov. Br. Ins.* 204. 1.—*Hübner Schmet. no.* 65. *pl.* 12.—*Seba Thes.* 4. 55. *f.* 5.—*Pet. Gaz. t.* 12. *f.* 9.

HABITAT rarissime in comitatu Cornubiense. *Larva* in Galio vero. *Puppa* sub Terra. *Imago* Hortis.

EXPANSIO alarum 3 unc. 3 lin.

DESCRIPTIO. *Larva* caudata flavicans, nigro maculata, capite linea dorsali stigmatibusque rubris. Variat capite linea dorsali pedibusque nigris. *Fab. Ent.* l. c.

PUPPA fusca. *Fab. Ent.* l. c.

IMAGO. *Caput* fusco-virescens fasciis duabus albis lateralibus. *Thoraæ* fusco-virescens fasciis tribus albis duplicatis, exterioribus ex continuatione præcedentium capitis, abdomen roseo-cinereum

nereum supra albo nigroque tessellatum. *Alæ anticæ* obsolete virescentes, fascia recta basi ad apicem longitudinaliter ducta, alteraque cinerea postica nigro terminata, venisque sex albis quasi strigis, fasciam albam oblique secantibus. *Posticæ* atræ fascia lata recta media a basi ad marginem posticum longitudinaliter ducta: marginibus omnibus, costa excepta, tenuissime e fusco-albicantibus.

S. L. (The sharp-winged Hawk) Alis griseis strigis fasciaque albis longitudinalibus; posticis fuscis basi maculisque sex posticis rubris. *Celerio.* 7.

Linn. Syst. Nat. tom. 2. *p.* 800. 12.—*Gmel. Syst. Nat.* 1. 2379.—*Fab. Ent. Syst.* 3. 370. 43.—*Fab. Syst. Ent.* 2. 545. 30.—*Fab. Mant. Ins.* 2. 97. 54.—*Fab. Spec. Ins.* 2. 151. 50.—*Villars Entom.* 2. 92. 11.—*Hübner Schmet. no.* 59. *pl.* 10.—*Cramer Pap. pl.* 125. *fig. E.*—*Donov. Br. Ins.* 190. *et* 191. *Larva.*—*Esper Schmet.* 2. *t.* 8.—*Roes. Ins. tom.* 4. *t.* 8.—*Harris Eng. Ins. t.* 28. *f.* 1. *Inquilinus.*—*Raj. Ins.* 159. 9.

Habitat *Larva* in Vite vinifero rarissime. *Pupa* sub Terra. *Imago* in Hortis i. Aug. Olim in Bunhill Fields prope Londinum capta; et nuper capta (in *Larva*) prope Wisbeach amicissimo meo F. Skrimshire, M. D.

Expansio alarum 3 unc. 1 lin.

Descriptio. *Larva* caudata fusca lineis duabus lateralibus albis, ocellisque utrinque duobus collaribus. *Fab.*

Puppa antice fusca, postice brunnea. *Fab.*

Obs. Exemplaria mea pro descriptione nimis manca.

S. L. (The scarce Elephant Hawk) Alis griseis fascia postica maculisque duabus costalibus virescentibus, posticis rubris fascia strigaque nigris. *Euphorbiæ.* 8.

Linn. Syst. Nat. tom. 2. *p.* 802. 19.—*Linn. Mus. Reginæ*, 356.—*Gmel. Syst. Nat.* 1. 2383.—*Turt. Syst. Nat. p.* 173.—*Fab. Ent. Syst.* 3. 367. 37.—*Fab. Syst. Ent.* 2. 541. 17.—*Fab. Mant. Ins.* 2. 95. 35.—*Fab. Spec. Ins.* 2. 146. 32.—*Villars Ent.* 2. 94. 14.—*Ent. Paris.* 254. 11.—*Müll. Zool. Dan.* 1340.—*Scop. Carn.* 471.—*Harris Aur. t.* 4. *a.*—*Seba Thes.* 4. 53. *M. et* 4. 60. *f.* 17. 18.—*Donov. Br. Ins.* 91. *et* 92. *Larva.*—*Hübner Schmet. no.* 66. *pl.* 12.—*Sp. Euphorbiæ Panz. Faun. Germ. . . . .*—*Merian Eruc. pars* 3. *pl.* 22.—*Esper Schmet.* 2. *t.* 11.—*Drury's Ins. pl.* 29. *f.* 3.—*Roes. Ins. cl.* 1. *t.* 3.

Habitat in Devonia. *Larva* in Euphorbia. *Imago* i. Jun. Hortis, rarissima.

Expansio alarum 3 unc. 1 lin.

Descriptio. *Larva* caudata nigra albo punctata, linea dorsali sanguinea laterali punctis flavescentibus. *Fab.* l. c.

Imago.

Imago. *Caput* album vertice fusco-virescens. *Thorax* fusco-virescens lateribus roseo-albidis, dorso subinde macula alba. *Abdomen* supra fusco-virescens, lateribus segmentorum trium anteriorum albidis, maculis duabus atris. *Alæ anticæ* ex roseo cinerascentes, maculæ duæ sesquialtera costales fusco-virescentes, altera basi atra albo terminata utraque; fasciaque postica obliqua fusco-virescente subulata; *posticæ* rubræ fascia atra antica, strigaque atra postica, extus obsolete dentata, maculaque albicante ad angulum ani.

Elpenor. 9.

S. L. (The Elephant Hawk) Alis olivaceis fasciis tribus obliquis purpureis; posticis, antice atris, postice rubris.

Linn. Syst. Nat. tom. 2. *p.* 801. 17.—*Linn. Mus. Regiæ*, 355.—*Gmel. Syst. Nat.* 1. 238. 2.—*Turt. Syst. Nat. p.* 175.—*Villars Ent.* 2. 93. 12.—*Ent. Paris.* 2. 54. 10.—*Fab. Ent. Syst.* 3. 372. 51.—*Fab. Syst. Ent.* 2. 543. 25.—*Fab. Mant. Ins.* 2. 97. 47.—*Fab. Spec. Ins.* 2. 148. 43.—*Berk. Syn.* 1. 132. 7.—*Müll. Zool. Dan.* 1338.—*Scopol. Carn.* 472.—*Faun. Ingr.* 214. 644.—*Wilks, pl.* 26.—*Donov. Br. Ins.* 122.—*Hübner Schmet. no.* 61. *pl.* 10.—*Harris Aur. t.* 7. *a. b.*—*Roes. Ins. cl.* 1. *t.* 4.—*Albin's Ins. t.* 9.—*Esper Schmet.* 2. *t.* 9.—*Schæf. Icon.* 96. 4. 5.—*Merian Eruc. pars* 2. *pl.* 23.—*Raj. Ius.* 145. 2. *et* 146. 3. *et* 281. 16. *Larva.*—*Seba Thes.* 4. 55. *f.* 1. 2.—*Goed. vol.* 3. *pl. Y. Larva et Pup.*—*List. Goed. f.* 26. *Larva et Pup.*—*Pet. Gaz.* 40. 11. 12. 13.—*S. Porcus De Geer Gen. Ins.* 33. 29.

Habitat satis infrequens *Larva* in Galio palustré m. Aug. *Imago* f. Jun. Hortis.

Expansio alarum 2 unc. 7 lin.

Descriptio. *Larva* caudata fusco maculata, ocellis collaribus utrinque duobus cœruleis. *Fab.*

Puppa antice obscura grisea, postice fusca, stigmatibus obscurioribus. *Fab.*

Imago. Antennæ, Vertex, Thorax, Abdomen supra, *Alæque anticæ* olivaceæ. Palpi, lineola superciliari; lineolis 4 subarcuatis Thoracis; lateribus maculisque duabus basi, lineolaque dorsali abdominis; costa, puncto basi, fasciis duabus obliquis, margineque postico alarum superiorum; et demum postica parte alarum inferiorum, plus minusve *rubris vel purpurascentibus.*—Punctum minutum disci, margineque tenuiori alarum superiorum; striga laterali, et punctis duabus lateralibus abdominis; ciliisque alarum inferiorum *albis.* Macula basi abdominis, maculaque basi alarum superiorum; et demum antica parte alarum inferiorum *atris.*

S. L. (The

S. L. (The small Elephant Hawk) Alis flavo purpureoque variis, abdomine subtus albo punctato. *Porcellus.* 10.

Linn. Syst. Nat. tom. 2. *p.* 801. 18.—*Gmel. Syst. Nat.* 1. 2382.—*Turt. Syst. Nat. p.* 175.—*Fab. Ent. Syst.* 2. 373. 52.—*Fab. Syst. Ent.* 2. 544. 26.—*Fab. Mant. Ins.* 2. 97. 48.—*Fab. Spec. Ins.* 2. 149. 44.—*Villars Ent.* 2. 94. 13.—*Ent. Pa is.* 255. 12.—*Müll. Zool. Dan.* 1339.—*Faun. Ingr.* 214. 555.—*De Geer Gen. Ins.* 33. 30.—*Donov. Br. Ins.* 314.—*Hübner Schmet. no.* 60. *pl.* 10.—*Esper Schmet.* 2. *t.* 10.—*Roesel. Ins. cl.* 1. *t.* 5.—*Albin's Ins. t.* 9.

Habitat rarissime *Larva* in Epilobio hirsuto. *Puppa* sub Terra. *Imago* f. Mai. Ripis.

Expansio alarum 2 unc.

Descriptio. *Larva* ecaudata fusca, ocellis utrinque tribus collaribus cœruleis. *Fab.*

Puppa nigricans. *Fab.*

Imago. Simillima priori, ut facile idem insectum: sed Larva minor nigra absque cornu. *Declarata* vero, *thorace* antice posticeque rubro. *Alis primoribus* absque fasciis, absque puncto albo, absque margine tenuiore albo; *posticis* vero basi fuscis, *abdomine* supra absque linea rubra. *Villars* l. c.

Obs. Præcedente abunde differt maculis tribus seu quatuor costalibus *superiorum alarum* ut in *Sp. Euphorbiæ*, at rubris nec virescentibus: thorace toto rubro, nec olivaceo striis rubris. Margo tenuior seu ciliæ, præcipue alarum inferiorum, nostris exemplaribus semper tenuissime albus est.

†† Dentales (*Dentated*). *Alis dentatis, vel subdentatis.*

S. L. (The eyed Hawk) Alis angulatis, posticis ocellatis. *Ocellata.* 11.

Linn. Syst. Nat. tom. 2. *p.* 796. 1.—*Linn. Mus. Reginæ*, 341.—*Gmel. Syst. Nat.* 1. 2371.—*Turt. Syst. Nat. p.* 168.—*Villars Ent.* 2. 84. 1. (*excluso synonymo Drurii*).—*Ent. Paris.* 251. 1.—*Fab. Ent. Syst.* 2. 355. 1.—*Fab. Syst. Ent.* 2. 536. 1.—*Fab. Mant. Ins.* 2. 92. 1.—*Fab. Spec. Ins.* 2. 139. 1.—*Scopol. Carn.* 465.—*Faun. Ingr.* 213. 651.—*Müll. Zool. Dan.* 1334.—*Berk. Syn.* 1. 130. 1.—*Wilks, pl.* 24.—*Roes. Ins. cl.* 1. *t.* 1.—*Sepp. Ins. v.* 1. 2. *t.* 2.—*Merian Eruc. pars* 2. *pl.* 37.—*Nat. Misc.* 1. 18.—*Donov. Br. Ins.* 269.—*S. Salicis Hüb. Schmet. no.* 73. *pl.* 15.—*Esper Schmet.* 2. *t.* 1.—*Admiral Ins. pl.* 1.—*Schæf.* 1. 99. *f.* 6.—*Harris Aurel. t.* 5. *i. g. b.*—*Raj. Ins.* 149. 3.—*Albin's Ins. t.* 8.—*Seba Thes.* 4. 51. *P. et* 4. 59. *f.* 6.—*Goedart. Ins.* 3. *pl.* 0.—*List. Goed. f.* 24.—*Mouf.* 91. 6.—*S. Semipavo De Geer Gen. Ins.* 34. 33.

Habitat

Habitat vix infrequens *Larva* in Salice, Pyro, Malo, f. Aug.
Puppa sub Terra. *Imago*, Salicetis f. Mai.
Expansio alarum 3 unc. 8 lin.
Descriptio. *Larva* solitaria caudata, scabra, viridis: striis obliquis lateralibus albis punctisque ocellaribus flavis. *Fab.*
Puppa fusca dorso atro. *Fab.*
Imago. *Thoraæ* cinereus, dorso fusco. *Abdomen* cinereum. *Alæ anticæ* angulatæ cinereo-roseæ, fascia nebulosa obliqua media margineque postico irregulariter fuscis. *Posticæ* basi læte rubræ apice multo pallidiores, vel subinde roseæ, oculo magno cœruleo versus angulum ani, pupilla magna e fusco-plumbescens iride cœrulea, circulo nigro, quæ color ad angulum ani transit: angulo ipso itidem nigro.

Populi. 12. S. L. (The Poplar Hawk) Alis reversis griseis, anticis puncto albo, posticis basi ferrugineis.

Linn. Syst. Nat. tom. 2. p. 797. 2.—Linn. Mus. Reginæ, 342.—Gmel. Syst. Nat. 1. 2372.—Turt. Syst. Nat. p. 169.—Villars Ent. 2. 85. 2.—Ent. Paris. 252. 3.—Fab. Ent. Syst. 3. 357. 9.—Fab. Syst. Ent. 2. 587. 3.—Fab. Mant. Ins. 2. 93. 8.—Fab. Spec. Ins. 141. 8.—Müll. Zool. Dan. 1335.—Scopol. Carn. 466.—Faun. Ingr. 213. 652.—Berk. Syn. 1. 130. 2.—Donov. Br. Ins. pl. 241.—Harris Aur. t. 33. d. f. 9.—Wilks, pl. 25.—Hübner Schmet. no. 71. pl. 15.—De Geer Gen. Ins. 33. 32.—Roes. Ins. Supp. cl. 1. t. 30.—Sepp. Ins. v. 1. 2. t. 1.—Merian Eruc. pars 3. pl. 37.—Albin's Ins. t. 57.—Seba Thes. 4. 51. K. Mas, et 4. 53. V. Femina, et 4. 59. f. 9. 10.—Admiral's Ins. t. 10.—Schæf. Icon. 100. f. 5. 6.—Esper Schmet. 2. t. 2.—Goed. Ins. vol. 1. pl. 24.—List. Goed. no. 25.

Habitat frequens *Larva* in Populis m. Sept. *Puppa* sub Terra. *Imago* f. Jun. Populetis.
Expansio alarum. Mas 3 unc. 5 lin. Fem. 3 unc. 8 lin.
Descriptio. *Larva* solitaria caudata scabra viridis utrinque linea striisque transversalibus obliquis albis. *Fab.*
Puppa sordide fusca.
Imago. *Thoraæ et abdomen* cinerei. *Alæ* inæqualiter dentatæ griseæ glauco-nebulosæ; *anticæ* lunula media alba; *posticæ* macula magna basi ferruginea.

Tiliæ. 13. S. L. (The Lime Hawk) Alis griseo-ferrugineis subtrilobis, fascia fracta media fimbriaque olivaceis.

Linn. Faun. Suec. 1085.—Linn. Mus. Reginæ, 343.—Linn. Syst. Nat. tom. 2. p. 797. 3.—Gmel. Syst. Nat. 1. 2373.—Turt. Syst. Nat. p. 169.—Villars Ent. 2. 86. 3.—Ent. Paris. 251.

251. 2.—*Fab. Ent. Syst.* 358. 10.—*Fab. Syst. Ent.* 2. 537. 4. —*Fab. Mant. Ins.* 2. 93. 9.—*Fab. Spec. Ins.* 2. 141. 9.— *De Geer Gen. Ins.* 35. 34.—*Donov. Br. Ins.* 325.—*Harris Aur. t.* 20 *figuræ majores.*—*Wilks, pl.* 23.—*Hübner Schmet. no.* 72 *pl.* 15.—*Esper Schmet.* 2. *t.* 3.—*Roes. Ins.* 1. *phal.* 1. *t.* 2.—*Sepp. Ins. v.* 1. 2. *t.* 6.—*Merian Eruc. pars* 2. *pl.* 21. —*Albin's Ins. t.* 10.—*Barbut's Gen. pl.* 10. *f.* 3.—*Raj. Ins.* 151. 1.—*Seba Thes.* 4. 53. *G. et* 4. 59. *f.* 3.—*Schæf. Icon.* 100. *f.* 1. 2. *et* 203. *f.* 4.

HABITAT rarius *Larva* in Tilia Europea et Ulmo campestre, m. Aug. *Puppa* sub Terra. *Imago* m. Mai. Tiliaceis et Ulmosis.

EXPANSIO alarum 3 unc.

DESCRIPTIO. *Larva* solitaria caudata scabra, antice attenuata viridis striis obliquis sanguineis flavisque. *Fab.*

PUPPA fusco-rufescens asperiuscula.

IMAGO. Thorax albicans, fasciis tribus olivaceis, antice confluentibus. Abdomen cinereum. *Alæ anticæ* griseæ, subinde roseo-griseæ, subinde ferrugineæ, fascia media fracta ex maculis duabus transversis majusculis subquadratis fusco-olivaceis vix confluentibus; fimbriaque lata olivacea ad marginem posticum; lituraque alba vel albida apicis. *Alæ posticæ* ad angulum ani emarginatæ griseæ, fascia postica obscura fuscescente, quæ ad angulum ani nigrescit.

(*a*) ** SESIÆ (*Humming-birds and Clear-wings*). *Abdomine* (*apiforme et crabroniforme exceptis*) *valde barbato. Alis* (*stellatarum exceptis*) *fenestratis, volatu diurno.*

† TECTÆ (*Humming-birds*). *Alis squamis minutis tectis, et inde opacis.*

S. S. (The Humming-bird) Abdominis latetibus albo nigroque variis, alis anticis fusco-cinereis strigis duabus atris, posticis ferrugineis. *Stellatarum.* 14.

Linn.

(*a*) OBS. All the species which compose this section, except the first, are called internal feeders by Aurelians: i. e. their *Larvæ* feed internally on the pith or young wood of various trees; but more especially the currant, willow, poplar, and arbele. The eggs are supposed to be deposited by the parent females externally on the shoots of the trees, and the young *Larvæ*, when hatched, are said to eat their way into the pith, and there form themselves cylindrical lodgements, in which,

Linn. Faun. Suec. 1091.—*Linn. Syst. Nat. tom.* 2. *p.* 803. 27. —*Gmel. Syst. Nat.* 1. 2387.—*Villars Ent.* 2. 97. 18.—*Turt. Syst. Nat. p.* 179.—*Fab. Ent. Syst.* 2. 380. 5. *Sesia.*—*Fab. Syst. Ent.* 2. 548. 3.—*Fab. Mant. Ins.* 2. 99. 6.—*Fab. Sp. Ins.* 2. 154. 6.—*Berk. Syn.* 1. 132. 8.—*Ent. Paris.* 253. 6. —*Scop. Carn.* 474.—*Donov. Br. Ins.* 155.—*Harris Aur. t.* 24. *l. i.*—*Geof. Hist. Ins. tom.* 2. *pl.* 11. *f.* 5.—*Hübner Schmet. no.* 57. *pl.* 9.—*Roes. cl.* 1. *t.* 8.—*Sepp. Ins. v.* 2. 2. *t.* 1.—*Barbut's Gen. pl.* 10. *f.* 27.—*Merian Eruc. pars* 2. *pl.* 29.—*Schæf. Ic. t.* 16. *f.* 23.—*Esper Schmet.* 2. *t.* 13.—*Papilio velocissima, &c. Raj.* 133. 1.—*Brad. Nat. pl.* 26. *f. A.*—*Hist. Abb. Ins. t.* 11. *f.* 5.—*Merrett's Pinax*, 199. 11.—*Mouf. Ins.* 105. 12.—*S. flavidia De Geer Gen. Ins.* 33. 32.

HABITAT rarius, *Larva* f. Mar. f. Jun. f. Aug. in Galio Rubiaque. *Puppa* in follicula inter pabulum. *Imago* f. Ap. f. Jun. f. Sept. Hortis; ubi pabulum in floribus tubigeris, celerrimis alis circumvolitans et pendens, linguaque exerta, admirabiliter quærit.

EXPANSIO alarum 1 unc. 11 lin.

DESCRIPTIO. *Larva* caudata albo punctata, cauda subulata cœrulea apice ferruginea. *Fab.*

PUPPA fusca leviter folliculata.

IMAGO. Caput, Antennæ, Lingua spiralis, Thorax, Abdomen *supra*, et *alæ primores* fuscescentes seu fusco-cinereæ; strigis duabus undatis punctoque vel annulo atris. *Alæ posticæ* fulvo-ferrugineæ margine tenuiori nigricante, ciliis ipsis tenuissime albicantibus.

OBS. This interesting species in the winged state frequents gardens; flying in sunny weather between the hours of 10 and 12 in the morning, and those of 2 and 4 in the afternoon. Its food is the nectarious juice of tube-bearing flowers. This it extracts with amazing address, by the assistance of its exerted spiral tongue, inimitably poising itself all the while on rapidly vibrating wings; whence its

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when full fed, they effect their transformation into *Puppæ*, and nearly out of which, when *Puppæ*, they protrude themselves, in a vermicular manner, by the assistance of their ciliated segments, to be in full readiness to take wing as soon as they are able. It is not unusual to see the empty shells of the *Puppæ* sticking partly in, and partly out of the trees. The tardy *Larvæ* of the Goat Moth (Cossus) observe the very same laws; but, strange to tell, are three full years in accomplishing them.

name

name of Humming-bird. It is delightful indeed, to the entomological eye of an Aurelian, to behold and contemplate the dexterity exhibited by this charming insect, whilst it sails, all gaiety and grace, round the tall sprig of a Larkspur or other flower; probing to the very bottom *every single tube*, neglecting none, and *trying no one twice*.

I once knew a specimen of this species taken at Christmas; which makes it probable that some of the September brood may occasionally live through the winter, like many species of Papilio.

†† Denudatæ (*Clear-wings*). *Alis plus minusve denudatis, et inde fenestratis.*

+- Apiformes (*Bees*). *Abdomine percrasso barbato.*

S. S. (The broad-bordered Bee) Abdomine nigro fascia flavicante, alis fenestratis marginibus posticis late brunneo-nigris. *Linn. Faun. Suec.* 1092.—*Linn. Syst. Nat. tom.* 2. *p.* 803. 28.—*S. fuciformis α. Gmel. Syst. Nat.* 1. 2388.—*Turt. Syst. Nat. p.* 180.—*Villars* 2. 98. 19.—*Fab. Ent. Syst.* 2. 381. *Sesia.*—*Fab. Syst. Ent.* 2. 548. 5.—*Fab. Spec. Ins.* 2. 156. 11.—*Fab. Mant. Ins.* 2. 99. 11.—*Donov. Br. Ins.* 87.—*Harris Eng. Ins. t.* 13. *f.* 2.—*Esper Schmet.* 2. *t.* 13. *f.* 1.—*Hübner Schmet. no.* 55. *pl.* 9.—*Ent. Paris.* 252. 5.—*Scop. Carn.* 475.—*Faun. Ingr.* 214. 656.—*Roes. Ins. cl.* 1. *t.* 38.—*S. fuciformis Panz. Faun. Germ.*.....—*Müll. Zool. Dan.* 1342.—*Brad. Nat. pl.* 26. *f.* B.—*Pet. Gaz.* 26. 10.—*S. Musca De Geer Gen. Ins.* 33. 23. *Fuciformis.* 15.

Habitat *Larva* in Lonicera Periclymeno. *Imago* Hortis valde infrequens.

Expansio alarum 1 unc. 9 lin.

Descriptio. *Larva* viridis linea laterali flava, cornu recto. *Fab.*

Pupa folliculata nigra antice strigis flavis. *Fab.* l. c.

Imago. Antennæ et Lingua spiralis nigræ. Caput, Thorax, anticaque pars *alarum anticarum* virides. Abdomen fulvum, fascia lata media et lateribus caudæ purpureo-nigris. *Alæ anticæ* fenestratæ margine costali, basique late virides: venis, puncto oblongo medio, margineque postico late brunneo-fuscis, subinde tinctura purpurea. *Alæ posticæ* primoribus simillimæ, at margo posticus minus fimbriatus est.

Obs. Volat cum præcedente at longe ratior velocissimis alis.

Bombyliformis 16. S. S. (The narrow-bordered Bee) Abdomine barbato fulvo virescente fascia nigra, alis marginibus tenue fuscis.

Fuciformis γ. *Gmel. Syst. Nat.* 1. 2388.—*Turt. Syst. Nat. p.* 180.—*Fab. Ent. Syst.* 2. 382. 12. *Sesia.*—*S. Bombyliformis Panz. Faun. Germ.*....—*Hübner Schmet. no.* 56. *pl.* 9.—*Esper Schmet.* 2. *t.* 23. *f.* 2.—*Schæf. Icon.* 16. *f.* 1.—*Brad. Nat. pl.* 26. *f. C.*

Habitat rarissima apud nos, *Larva* Scabiosa. *Fab. Imago* m. Jun. Hortis. A præcedente vix differt, at *Larva* omnino diversa. *Fab.*

Expansio alarum 1 unc. 9 lin.

Descriptio. Antennæ (paulo pectinatæ in mare) lingua fasciaque lata abdominis; barbaque (fere tota) caudæ nigris. Thorax et alteræ partes abdominis viridi-fulvæ. *Alæ* ut in præcedente, sed basi minus virescentes, et margo posticus minus fuscescit, in *posticis* tenuissime niger est.

Obs. Volat cum præcedentibus, at longissime rarior, velocissimis alis.

++ Vespiformes (*Hornets*). *Abdomine crasso subimberbe.*

Apiformis 17. S. S. (The Hornet) Capite abdomineque flavo cingulis duabus atris, thorace nigro maculis quatuor flavis.

S. Apiformis Linn. Faun. Suec. ?—*Linn. Syst. Nat. tom.* 2. 804. 29.—*Gmel. Syst. Nat.* 1. 2388.—*Turt. Syst. Nat. p.* 180.—*Villars Ent.* 2. 100. 20.—*Fab. Ent. Syst.* 2. 382. 13. *Sesia.*—*Fab. Syst. Ent.* 2. 549. 6.—*Fab. Mant. Ins.* 2. 99. 12.—*Fab. Spec. Ins.* 2. 156. 12.—*Faun. Iugr.* 215. 657.—*Müll. Zool. Dan.* 1341.—*Esper Schmet.* 2. *t.* 14. *f.* 2. ?—*Sp. Crabroniformis Hübner Schmet. no.* 51. *pl.* 8.—*Donov. Br. Ins.* 25.—*Lewin. Tr. Linn. Soc. vol.* 3. *pl.* 3. *f.* 1. 5.—*Harris Eng. Ins. t.* 3. *f.* 7.—*Schæf. Icon.* 111. 2. 3.—*Rœm. t.* 22. *f.* 6.—*Sulz. Ins. t.* 22. *f.* 6.—*S. Vespa De Geer Gen. Ins.* 33. 24.

Habitat infrequens *Larva* in cortice Populi Mai. *Imago* f. Jun. Populetis.

Expansio alarum 1 unc. 9 lin.

Descriptio. *Larva* ecaudata albicans capite rufescente.

Puppa rufescens obtusa, segmentis ciliatis.

Imago. Antennæ, Oculi, Thorax, et segmenta abdominis secunda et quarta nigra. Caput, maculæ quatuor thoracis, altera pars abdominis, pedesque flavæ. *Alis* fenestratis, puncto disci anticarum, venis margineque omni lutescentibus.

§. S. (The

S. S. (The lunar Hornet) Capite atro thorace antice margine flavo, abdomine flavo cingulis duabus atris. *Crabroniformis.* 18.

Fab. Ent. Syst. 2. 383. 17.? *Sesia.—Turt. Syst. Nat. p.* 100. *—Lewin. Trans. Linn. Soc. vol.* 3. *pl.* 3. *f.* 6-10.—*An vero Apiformis Linn.?—S. Apiformis Esper Schmet.* 2. *t.* 19. *f.* 2. 3.

Habitat rarissima, *Larva* in trunco Salicis Capreæ Octob. *Imago* m. Julio Salicetis.

Expansio alarum 1 unc. 8 lin.

Descriptio. *Larva* albicans puncto fusco in plurimis segmentis versus pedes.

Puppa fusca.

Imago præcedenti simillima at paulo minor. Differt capite nigro, thorace antice flavo marginato, punctis duobus oblongis posticis flavis, nec quatuor ut in præcedente.

+-+-+ Tipuliformes (*Tipulæ*). *Abdomine gracili valde barbato.*

S. S. (The clear Under-wing) Alis anticis tectis fuscis, posticis fenestratis, abdomine nigro cingulis tribus flavis. *Asiliformis.* 19. *

Villars Ent. 2. 102. 25.—*Turt. Syst. Nat. p.* 181.—*Hübner Schmet. no.* 44. *pl.* 7.—*Esper Schmet.* 2. *t.* 29. *f.* 1. †

Habitat rarissime in Populetis prope Londinum. Tempus nescio.

Expansio alarum 1 unc. 3 lin.

Descriptio. *Imago.* Statura S. Tipuliformis at triplo major. Antennæ in mare pectinatæ. Thorax niger antice flavo marginatus. Abdomen nigrum cingulis tribus flavis, barba nigra pilis paucissimis flavis. *Alæ anticæ* tectæ fuscæ puncto luteo baseos; *posticæ* hyalinæ venis margineque fuscis. In Mus. D. Drury, &c.

S. S. (The yellow-legged Clear-wing) Alis apice nigris, fascia superiorum fulva nigra interne inducta, abdomine barbato nigro, annulis quinque flavis. *Cynipiformis.* 20. *

Villars 2, 104. 32.—*S. Tenthrediniformis Hübn. Schmet. no.* 52. *pl.* 8. *an sexus alter?—S. Tenthrediniformis Prod. Lep. Brit. p.* 6. *no.* 19.

Habitat rarissima in Hortis prope Londinum, tempore incognito.

Expansio alarum 1 unc.

Descriptio. Statura et magnitudo S. Tipuliformis vel paulo major. Antennæ certo situ minutissime pectinatæ nigræ. *Alæ* fenestratæ margine omni nigro: *primores* apice fasciaque postica

postica nigris, fascia cujus cupreo-fulva seu ignea inducta; pedes flavi geniculis nigris. Exemplar unicum tantum vidi.

Tipuliformis. 21. S. S. (The currant Clear-wing) Alis margine fasciaque postica nigris, abdomine barbato nigro, incisuris alternis margine flavis.

Linn. Faun. Suec. 1096.—*Linn. Syst. Nat. tom.* 2. *p.* 804. 32. —*Gmel. Syst. Nat.* 1. 2390.—*Turt. Syst. Nat. p.* 181.—*Villars Ent.* 2. 101.—*Fab. Ent. Syst.* 2. 385. 21. *Sesia.*—*Fab. Syst. Ent.* 2. 549. 9.—*Fab. Mant. Ins.* 2. 100. 18.—*Fab. Spec. Ins.* 2.—*Donov. Br. Ins.* 52. *et idem lente aucta* 53.—*Hübner Schmet. no.* 49. *pl.* 8.—*Esper Schmet.* 2. *t.* 15. *f.* 3. —*Harris Eng. Ins. t.* 3. *f.* 8.—*Schæf. Icon.* 135. *f.* 5. 6.—*S. Tipula De Geer Ins.* 33. 25.

HABITAT frequens *Larva* autumno tempore in medulla Ribis rubræ. *Puppa* inter pabulum. *Imago* m. Jun. Hortis.

EXPANSIO alarum 10 lin.

DESCRIPTIO. Antennæ setaceæ nigræ. Thorax supra niger ante alas linea lutea. Abdomen nigrum, barba magna, pro ratione magnitudinis insecti, nigra, incisuris (quatuor in mare, tres in femina) margine flavis. *Alæ anticæ* unifasciatæ ut in præcedente, sed absque igneo colore, et apice non solum nigro, sed nigro venis aureis. Pedes supra nigri geniculis flavis; nec flavi geniculis nigris ut in præcedente.

LARVA solitaria subpilosa albida, capite pedibusque flavis, lineaque dorsali obscuriore. *Fab.*

Oestriformis. 22. * S. S. (The yellow-tailed Clear-wing) Alis margine apiceque nigris fascia ignea intus nigra, abdomine incisuris alternis margine flavis, barba lutea.

S. Tipuliformis Berk. Syn. 1. 132. 9.—*S. Oestriformis Villars Ent.* 2. 102. 24. ?—*Hübner Schmet. no.* 43. *pl.* 7.—*S. Chrysorrhœa Donov. Br. Ins.* 116.—*S. Chrysorrhœa Turt. Syst. Nat. p.* 182.—*Pet. Gaz.* 42. 6. *mense Junio capta.*

HABITAT *Imago* m. Jun. in Hortis et Lucis rarissima.

EXPANSIO alarum 11 lin.

DESCRIPTIO. Statura et magnitudo omnino præcedentium. Differt fascia postica alarum superiorum ignea intus nigro tenuissime inducta, et dignoscitur primo intuitu barba abdominis lutea nec nigra.

Vespiformis. 23. * † S. S. (The six-belted Clear-wing) Alis costa fasciaque fuscis, apice flammeis, abdomine cingulis flavis sex, barba nigra flavaque.

S. Vespiformis

S. Vespiformis Hüb. Schmet. no. 39. 40. *pl.* 6. *nec Vespiformis Linn. vel Fab. vel Turt.—S. Vespiformis Prod. Lep. Brit. p.* 6. 22.

HABITAT in Anglia at rarissime. D. Francillon et D. Swainson.

EXPANSIO alarum 8 lin.

DESCRIPTIO. Præcedentibus paulo minor. *Alæ* fenestratæ, margine crassiori fasciaque postica fuscis, apice flammeæ. Abdomen nigricans cingulis sex flavis, alternis angustioribus. Anus barbatus pilis nigris flavisque.

OBS. Turton in his translation of *Systema Naturæ* gives the *S. Vespiformis* of *Linn.* as a British species. It is distinct from the present insect, and I have not yet heard of it in any British Collection.

S. S. (The fire Clear-wing) Alis margine tenuiori apiceque late flammeis, abdomine nigro cingulis duobus albidis. *Chrysidiformis.* 24.

S. Chrysidiformis Vill. Ent. 2. 103. 28.—*Turt. Syst. Nat. p.* 181. —*S. Chrysidiformis Hübner Schmet. no.* 53. *pl.* 8.?—*Esper Schmet.* 2. *t.* 30. *f.* 2.—*S. bicinctus Prod. Lep. Brit.* 6. 26. * †

HABITAT in Anglia Lucia rarissime. D. Francillon.

EXPANSIO alarum 10 lin.

DESCRIPTIO. *Imago. Alæ* fenestratæ, margine crassiori fusco, tenuiori apiceque late flammeis seu igneis, puncto medio atro. Abdomen nigrum cingulis duobus albidis. Anus barbatus pedesque flammei; magnitudo et statura *S. Tipuliformis.*

S. S. (Black and white horned Clear-wing) Antennis nigris fascia albida, abdomine supra semizona albida, subtus duabus. *Spheciformis.* 25.

S. semizonatus Prod. Lep. Brit. 6. 25.—*S. sphecifórmis Villars Ent.* 2. 103. 30.?—*S. sphecifarmis Hübner Schmet. no.* 77. 78. *pl.* 16.? * †

HABITAT rarissime in Angliæ Sylvis æstate tempore. D. Lambert.

EXPANSIO alarum 1 unc.

DESCRIPTIO. Statura præcedentis at fere duplo major. *Alæ* fenestratæ marginibus, fascia postica, apiceque nigris. Antennæ nigræ fascia lata albida, pone medium.

S. S. (The red-belted Clear-wing) Alis, margine, fascia postica apiceque nigris, abdomine nigro fascia miniata. *Culiciformis.* 26.

S. Culiciformis Faun. Suec. 1094.—*Linn. Syst. Nat. tom.* 2. *p.* 804. 30.—*Gmel. Syst. Nat.* 1. 2389.—*Amœn. Acad.* 5. *t.* 3. *f.* 204.—*Fab. Ent. Syst.* 3. 384. 19.—*Fab. Syst. Ent.* 2. 549.

549. 8.—*Fab., Mant. Ins.* 2. 100. 16.—*Fab. Spec. Ins.* 2. 156. 14.—*Müll. Zool. Dan.* 1343.—*Villars*, 2. 100. 21.—*Hübner Schmet. no.* 45. *pl.* 7.—*Esper Schmet.* 2. *t.* 15. *f.* 1.—*S. Zonatus Donov. Br. Ins.* 195.—*S. Zonatus Turt. Syst. Nat. p.* 181. *et S. Culiciformis Turt. Syst. Nat. p.* 181.—*S. Culex De Geer Gen. Ins.* 33. 26.

Habitat *Imago* Hortis i. Aug. valde infrequens.

Expansio alarum 9 lin.

Descriptio. *Imago.* Statura et magnitudo S. Tipuliformis; differt primo intuitu abdomine nigro fascia lata fulva seu miniata, barba nigra. Fascia apiceque alarum anticarum nigris, absque ignea vel aurea. *Alæ posticæ* costa aurea, puncto marginibusque nigris.

Formiciformis 27. †

S. S. (The flame-tipped Red-belt) Costa fasciaque postica fuscis, apice sordide flammea, abdomine nigro fascia rubro-flammea.

S. Formiciformis Villars Ent. 2. 104. 34.—*S. flammeus Prod. Lep. Brit.* 6. 24.

Habitat rarissime in Hortis. Imago i. Aug.

Expansio alarum 9 lin.

Descriptio. Simillima præcedenti et fere eadem; sed facile dignoscitur apice alarum anticarum flammeo nec nigro vel fusco. *Alæ* primores fenestratæ margine crassiori fasciaque postica fuscis, apice sordide flammea; *posticæ* fenestratæ venis margineque fuscis. Abdomen nigrum cingulo lato seu fascia rubro-flammea vel miniata. Anus barbatus niger lateribus albidis.

Ephemeræformis. 28. * †

S. S. (The beltless Clear-wing) Antennis pectinatis apice setaceis, alis fenestratis venis fusco-lutescentibus, abdomine ezonato.

Tinea fenestrella Prod. Lep. Brit. 35. 6.

Obs. *Magnitudo* et Statura Ephemeræ minoris.

Habitat in comitatu Eboracense rarissima. D. Bolton. In Musæo D. Drury.

3. ZYGAENA.

Fab. Gen. Ins. 141.
Yates's Gen. 136. 2.

CHARACTERES GENERIS.

Antennæ medio vel potius versus apicem valde incrassatæ, apice subulatæ.

Alæ tectæ squamis, opacæ.

Abdomen uniforme cylindraceum crassum, apice vix barbatum.

Larva obesa.

CHARACTERES SPECIERUM.

Z. (The green Forester) Viridi-cœrulea, alis anticis viridibus, posticis subpellucidis fuscescentibus. *Statices.* 1.

Sphinx Statices Linn. Faun. Suec. 1098.—*Linn. Syst. Nat. tom.* 2. *p.* 808. 47.—*Gmel. Syst. Nat.* 1. 2399.—*Turt. Syst. Nat. p.* 191.—*Villars Ent.* 2. 110. 44.—*Zygaena Statices Fab. Ent. Syst.* 3. 406. 68.—*Fab. Syst. Ent.* 2. 555. 26.—*Fab. Mant. Ins.* 2. 107. 62.—*Fab. Sp. Ins.* 2. 166. 50.—*Sphinx Statices Müll. Zool. Dan.* 1346.—*S. Statices Panz. Faun. Germ.*....—*Hübner Schmet. no.* 2. *pl.* 1.—*Donov. Br. Ins.* 204. *f.* 2.—*Harris Aur. t.* 34. *e.*—*Scop. Carn.* 481.—*Faun. Ingr.* 215. 659.—*Adscita Statices Esper Schmet.* 2. *t.* 18. *f.* 2. 6.—*Schæf. Icon.* 1. *f.* 8. 9.—*Raj. Ins.* 134. 3.—*Adscita Turcosa De Geer Gen. Ins.* 35. 36.—*Pet. Mus.* 329.

Habitat Sylvaticis m. Jun. infrequens.

Expansio alarum 1 unc. 3 lin.

Descriptio. *Larva* nigricans lineis dorsalibus duabus lunularum albarum. *Fab.*

Imago. Corpus magnitudine majoris Tabani, viridi-cœruleum. *Alæ superiores* subtus et *inferiores* utrinque fuscæ. Antennæ in mare pectinatæ. *Linn. Faun.* l. c.

Z. (The six-spot Burnet) Alis anticis cyaneis punctis sex sanguineis, posticis sanguineis margine obsolete cyaneo. *Filipendulæ.* 2.

Sphinx Filipendulæ Linn. Faun. Suec. 1097.—*Linn. Syst. Nat. tom.* 2. *p.* 805. 34.—*Gmel. Syst. Nat.* 2390.—*Turt. Syst. Nat. p.* 182.—*Villars Ent.* 2. 105. 37.—*Ent. Paris.* 255. 13.—*Zygaena Filipendulæ Fab. Ent. Syst.* 3. 286. 1.—*Fab. Syst. Ent.* 2. 550. 1.—*Fab. Mant. Ins.* 2. 101. 1.—*Fab. Spec. Ins.* 2. 157. 1.—*Sp. Filipendulæ Scop. Carn.* 479.—

 Müll.

4. BOMBYX.

Fab. Gen. Ins. 142.
Yates's Gen. 139. 3.

CHARACTERES GENERIS.

Antennæ masculinæ, et subinde femineæ, pectinatæ; basi ad apicem sensim attenuatæ.

Corpus sæpissime crassum, apice præcipue masculino, in plurimis obtuso et barbato, vel subinde valde lanato.

Larva non *geometra*, plerumque plus minusve hirsuta.

CHARACTERES SECTIONUM.

* MAXIMI (*The Great*). *Antennis* (*Gracilicornibus exceptis*) *valde pectinatis. Alis integris, femineis triuncialibus vel ultra.* (*B. Plantagine solum excepto.*)

† GRISEI (*Griseous*). *Alis masculinis griseis vel cervinis.*

+ Ocellati (*Ocellated*). *Alis ocellatis.*

+-+ Inocellati (*Inocellated*). *Alis inocellatis.*

†† ATRO-UNDATI (*Black-waved*). *Alis præcipue femineis albidis vel albis atro undatis, vel atro maculatis.*

††† GRACILICORNES (*Slender-horned*). *Antennis minus pectinatis quam in præcedentibus.*

+ Nobiles (*Nobles*). *Alis sine rubro colore.*

+-+ Tigres (*Tigers*). *Alis posticis plus minusve rubris.*

** DENTIGERI (*Prominents*). *Alis dentatis vel dorso dentigeris.*

† DENTATI (*Dentated*). *Alis dentatis et sæpissime dorso dentigeris.*

†† INTEGRI (*Intire-winged*). *Alis integris sed dorso dentigeris.*

*** CINEREI (*Cinereous*). *Antennis valde pectinatis. Alis plus minusve cinereis, strigis fasciisve saturatioribus.*

**** ALBI

****** ALBI** (*Whites*). *Alis albis vel albidis sæpius nigro punctatis, rarius maculatis.* (*Mas mendici fuscescit. Mas lubricipedati lutescit.*)

† ARBOREI (*Tree-eaters*). *Larvis birtis arboriworibus. Alis rarius nigro maculatis.*

†† TERRESTRES (*Herb-eaters*). *Larvis hirsutissimis herbivoribus. Alis semper nigro punctatis.*

******* TRISTIGMATIFERI** (*Darts.*) *Alis sæpius grisescentibus strigis duabus geminatis, et inter has stigmatibus 2 ordinariis, præterea tertia teliformi striga antica enata. Puppa subterranea.*

† GEMINATI (*Twin-striped*). *Alis griseis vel rarius fuscis, strigis geminatis vel moniliformibus.*

†† ALBINOTATI (*Antlers*). *Alis sæpe plus minusve albido notatis, strigis geminatis subobliteratis.*

******** BISTIGMATIFERI** (*Two-ringed*). *Alis sæpe griseis stigmatibus duobus ordinariis sæpe margine solo conspicuis, strigaque rectiuscula, rarius undulata, versus marginem posticum. Puppa subterranea.*

********* ESTIGMATIFERI** (*Ringless*). *Stigmatibus propriis nullis. Alis plus minusve cervinis, ferrugineis vel luteis.*

† CERVINI (*Fawns*). *Alis plus minusve cervinis.*

†† APICATI (*Chocolate Tips*). *Alis strigis quatuor anastomosantibus; apicibus alarum plus minusve rufescentibus.*

††† APTERI (*Vapourers*). *Mas corpore tenui. Alis ferrugineo variis. Femina aptera corpore valde obeso.*

†††† DENTISTRIGATI (*Feathered Rustics*). *Alis strigis denticulatis.*

††††† GRACILES (*Slender-bodied*). *Corpore magis gracili quam in præcedentibus. Alis plus minusve luteis.*

CHARACTERES SPECIERUM.

* MAXIMI (*The Great*). *Antennis plerumque valde pectinatis. Alis integris, femineis triuncialibus vel ultra, (B. Plantaginis solum excepto).*

† Grisei (*Griseus*). *Alis masculinis griseis vel cervinis.*

+ Ocellati (*Ocellated*). *Alis ocellatis.*

Pavonius. 1. B. M. (The Emperor) Alis rotundatis griseo-nebulosis ocello nictitante subfenestrato.

B. Pavonia Linn. Faun. Suec. 1099.—*Attacus Pavonia minor Linn. Syst. Nat. tom. 2. p. 810. 7.—Gmel. Syst. Nat. 1. 2405.—Turt. Syst. Nat. p. 198.—Fab. Ent. Syst. 3. 416. 32.—Fab. Syst. Ent. 559.—Fab. Mant. Ins. 2. 110. 27.—Fab. Sp. Ins. 2. 172.—Villars Ent. 2. 117. 3.—B. Carpini Hüb. Schmet. pl. 14. 53. 4.—B. Pavoniella Scop. Carn. 483.—Pb. A. Pavonia Müll. Zool. Dan. 1347.—Faun. Ingr. 661.—Berk. Syn. 1. 131. 1.—Wilks, pl. 32. Larvæ et Folliculæ et Puppæ. pl. 33. Imagines.—Donov. Br. Ins. pl. 1. Mas. pl. 253. Femina.—Harris Aur. t. 25. d. g. b.—Geof. Hist. Ins. tom. 2. pl. 12. f. 1. 2. 3.—Roes. Ins. cl. 2. t. 5. et cl. 2. t. 4. Larv. et Pup.—Sepp. Ins. v. 1. 3. t. 10. Larva, t. 11. Imago.—Raj. Ins. 146. 1.—Merian's Eruc. pars 1. pl. 13. Mas. pl. 23. Femina.—Histoire Abbregée des Ins. t. 12. f. 1. 2. 3.—Seba Thes. 4. 60. f. 10. Femina, et forte f. 9. 13. et 14.—Barb. Gen. Ins. pl. 10. f. 7. Mas.—Pavonia minor Esper Schmet. 3. t. 4. f. 1. 2.—Ent. Paris. 218. f. 3.—Phalæna Pavunculus De Geer Gen. Ins. 35. 39.—Schæf. Icon. t. 89. f. 2. 3. Femina. f. 4. 5. Mas.*

Habitat *Larva* in Erica, Salice, Pyro. *Imago* m. Mai. i. Aug. Viminosis.

Expansio alarum M. 2 unc. 10 lin. F. 3 unc. 2. lin.

Descriptio. *Larva* flavescente-viridis, fascia longitudinalis nigra infra; dein viridis, cincta annulis atris, tuberculis roseis. Tunc solitaria antea aggregata. *Villars.*

Puppa in folliculo ovata durissima, extus tecta lana fusca.

Imago. *Corpus* crassiusculum. *Antennæ* pectinatæ lanceolatæ cinereæ latæ, radiis duplicatis. *F. Suec.* l. c.

Mas. Thorax fulvus antice albus. *Alæ anticæ* griseæ, strigis tribus, prima antica obliqua purpurascens, lateribus nigris: secunda pone medium undulata itidem purpurascens, lateribus itidem nigris: tertia ad marginem posticum albicans; pone

pone fasciam griseam dentatam: margo ipse posticus fuscescit. Inter strigam primam et secundam, macula quadrata subfenestrata, in qua oculus nictitans pupilla nigra lunula alba iride grisea circulo nigro cincta, in quo circulo lunula altera alba major versus basin alarum. Apex alæ purpurascit macula rubra alteraque nigra. *Alæ posticæ* fulvo-ferrugineæ griseo paulo nebulosæ, oculo nictitante ut in anticis: fasciâ posticâ griseâ, margineque postico subinde purpurascente. *Femina* discrepat a mare, magnitudine majore: Antennisque multoties minus pectinatis: Thorace fusco antice albo: Abdomine triplo majore fusco, incisuris margine albidis, nec fulvis ut in mare.

Obs. This fine species will sometimes remain two seasons in the Puppa state.

B. M. (The Tau Emperor) Alis testaceis, ocello subviolaceo pupilla hastata alba. *Tauus.* 2.

B. Tau. Faun. Suec. 1100.—*Attacus Tau. Linn. Syst. Nat. tom.* 2. *p.* 811. 8.—*Gmel. Syst. Nat.* 1. 2406.—*Turt. Syst. Nat. p.* 158.—*Fab. Ent. Syst.* 3. 418. 36.—*Fab. Syst. Ent.* 560. 15.—*Fab. Mant. Ins.* 2. 110. 31.—*Fab. Spec. Ins.* 2. 172. 27. —*Villars Ent.* 2. 118. 4.—*Hüb. Schmet. pl.* 13. 51-2.—*B. Tau. Martyn's Aurelian's Vade mecum, no.* 8. *article Birch.* —*Müll. Zool. Dan.* 1348.—*Scop. Carn.* 484.—*Esper Schmet.* 3. *t.* 5.—*Roes. Ins. t.* 4. *t.* 7. *f.* 3. 4.—*B. Tau. Panz. Faun. Germ. Mas et Fem.*—*Schæf. Icon.* 85. 4. 5. *Mas.* 6. *Fem.*

Habitat *Larva* in Betula, Salice capræa, Fago sylvatico, Quercu. *Villars.*

Expansio alarum M. 2 unc. 10 lin. F. 3 unc. 3 lin.

Antennæ maris valde pectinatæ. Imago frequens in Sylva vulgo *de Mion*, mense Aprili, prope Lugdunum. *Larva* rara. *Villars*, l. c.

Obs. The place of this fine species in *Lepidoptera Britannica*, rests solely on the authority of *Martyn in his Aurelian's Vade mecum*, published at Bath some years since. He there gives it as a British species, and says it feeds on the Birch. In the preface to his Catalogue we are assured that many dubious natives have been rejected, and those only inserted which are really British.

I have never seen a British specimen of this species myself, in any collection, but have inserted the above account of it, lest I should be censured for omitting it, and with a view of exciting further inquiries into the subject of its being an inhabitant of Britain or not.

* † Inocellati.

++ Inocellati (*Inocellated*). *Alis inocellatis.*

Versicolorus. 3. *

B. M. (The Kentish Glory) Alis griseis strigis duabus lunulaque nigris albo innatis, maculisque tribus ad apicem albis.

B. versicolora Linn. Faun. Suec. 1111.—*Linn. Syst. Nat. tom.* 2. *p.* 817. 32.—*Gmel. Syst. Nat.* 2413.—*Turt. Syst. Nat. p.* 202.—*Fab. Ent. Syst.* 3. 427. 64.—*Fab. Syst. Ent.* 2. 565. 34.—*Fab. Mant. Ins.* 2. 113. 58.—*Fab. Spec. Ins.* 2. 178.—*Villars Ent.* 2. 131. 20.—*Hüb. Schmet. pl.* 1. 1. 2. *Wilks, pl.* 89.—*Berk. Syn.* 1. 134. 10.—*Faun. Ingr.* 667.—*B. versicolora Panz. Faun. Germ. Mas et Fem.*—*Esper Schmet.* 3. *t.* 22.—*Roes. Ins. cl.* 2. *t.* 39. *f.* 3. *Fem.*—*Donov. Br. Ins. pl.* 158.—*Rœmer. Gen. t.* 21. *f.* 4. *Fem.*—*Sulz. Ins. t.* 21. *f.* 4. *Mas.*

Habitat *Larva* in Betula. *Imago* (Mas) volatu diurno Peridumetis, Femina Truncis, m. Apr.

Expansio alarum M. 2 unc. 4 lin. F. 3 unc. 1 lin.

Descriptio. *Larva* subcaudata virescens flavo-punctata, lineisque obliquis flavis. *Fab.*

Imago. *Maris* thorax fulvus nigro terminatus, antice albus. Abdomen valde hirsutum fulvum. *Alæ anticæ* griseæ strigis duabus fuscis, prima ante medium extrorsum arcuata, antice alba; tunc lunula nigra in medio extrorsum spectans; tunc striga secunda pone medium, quasi geniculata versus marginem tenuiorem: tunc spatium saturatius griseum, in quo, ad apicem, maculæ tres triangulares obliquæ fere confluentes. Venæ versus angulum anteriorem dilatato-albæ. *Alæ posticæ* griseo-ferrugineæ striga obsoleta media, lituraque postica fusca costali. *Femina* major quam mare, alis griseo-albicantibus, notis distinctioribus; primoribus postice griseo-fuscescentibus.

Pinus. 4. *

B. M. (The Pine Lappet) Alis griseis fascia lobata ferruginea utrinque fusca, ante medium puncto albo triangulari.

B. Pini Linn. Faun. Suec. 1104.—*Linn. Syst. Nat. tom.* 2. *p.* 814. 24.—*Gmel. Syst. Nat.* 2410.—*Turt. Syst. Nat. p.* 202.—*Fab. Ent. Syst.* 3. 426. 62.—*Fab. Syst. Ent.* 2. 565. 32.—*Fab. Mant. Ins.* 2. 113. 56.—*Fab. Spec. Ins.* 2. 177. 48.—*Villars Ent.* 2. 124. 12.—*Hüb. Schmet. pl.* 42. 184-5.—*Berk. Syn.* 133. 5.—*Wilks, pl.* 61.—*Faun. Ingr.* 666.—*B. Pini Panz. Faun. Germ. Mas et Fem.*—*Donov. Br. Ins.* 178. *et Larva* 177.—*Forster's Cat.* 10. 528.—*Martyn's Aurel. Vade mecum, no.* 24. *article Fir.*—*Harris's Aurel. Pocket Comp.* 33. 34.—*Prod. Lep. Brit.* 7. *no.* 2.—*Esper Schmet.* 3. *t.* 12.—*Roes. Ins. cl.* 2. *t.* 59.—*Schæf. Icon.* 86. 1. 2. *Fem.* 3. *Mas.*

Habitat

Habitat *Larva* in Pino sylvestre. *Imago* mense Julio Pinetis.
Expansio alarum, M. 2 unc. 7 lin. F. 3 unc. 8 lin.
Descriptio. *Larva* subcaudata albo griseo fuscoque variegata, collaribus cœruleis punctis utrinque rufis. *Fab.*
Puppa folliculata fusca. *Fab.*
Imago. Omnium nostratum hujus generis facile maximus est: Thorax maris griseus. *Alæ anticæ* basi saturate griseæ; puncto albo trigono ante medium, tunc fascia obsoleta cinerascens: tunc fascia lobata pone medium subferruginea utroque linea grisea inducta: demum postica pars alæ, obsolete ex griseo colore cinerascit. *Alæ posticæ* saturate griseæ immaculatæ. *Femina* duplo major quam mare, *anticæ* griseo-ferrugineæ puncto albo triangulari; *posticæ* griseæ immaculatæ.

B.M. (The large Eggar) Alis antice brunneis postice griseis fascia flavicante pone medium, punctoque medio albo. *Quercus.* 5.

Linn. Faun. Suec. 1106.—*Linn. Syst. Nat. tom.* 2. *p.* 814. 25.—*Gmel. Syst. Nat.* 2411.—*Turt. Syst. Nat. p.* 201.—*Fab. Ent. Syst.* 423. 53.—*Fab. Syst. Ent.* 2. 564. 24.—*Fab. Mant. Ins.* 2. 112. 47.—*Fab. Spec. Ins.* 2. 175. 39.—*Villars Ent.* 2. 125. 13.—*Hüb. Schmet. pl.* 39. 172.—*Wilks, pl.* 46.—*Scop. Carn.* 487.—*Faun. Ingr.* 664.—*Ent. Par.* 261. 13.—*Müll. Zool. Dan.* 1353.—*B. Quercus Pann. Faun. Germ.*.....—*Donov. Br. Ins.* 104. 1. *Mas.* 104. 2. *Fem.*—*Harris Aur. t.* 29. *e. Mas. d. Fem.*—*Berk. Syn.* 1. 133. 6.—*Merian Eruc. pars* 1. *pl.* 10.—*Barb. Gen. Ins. pl.* 10. *f.* 25. *Mas.*—*Esper Schmet.* 3. *t.* 13. *f.* 2. 3.—*Roesel. cl.* 2. *t.* 35. *b.*—*Seba Thes.* 4. 51. *l.*—*Pet. Gaz.* 45. 13. *Mas.*—*Albin's Ins. t.* 18.—*Raj. Ins.* 142. 2.—*Schæf. Icon.* 87. 1. 2. *Mas.* 3. *Fem.*—*Goed. Ins.* 1. *pl.* 7.—*Lister's Goed. f.* 88.—*Mouf. Ins.* 92. 10. *Fem. et* 187. 2. *Larva.*

Habitat *Larva* in Quercu Robore f. Jun. *Puppa* in Follicula oblonga densissima utrinque obtusa. *Imago* f. Julii Peridumetis. *Mas* volatu diurno celerrimo.
Expansio alarum, M. 2 unc. 7 lin. F. 3 unc. 2 lin.
Descriptio. *Larva* pilosa grisea nigro annulata alboque maculata. *Fab.*
Puppa dense folliculata viridis antice fusca. *Fab.*
Imago. *Maris* Antennæ, Caput, thorax et abdomen griseæ. *Alæ anticæ* ut in charactere specifico: posticæ simillimæ sed basi pallidiores, et ciliis flavicantibus; nec griseis, et absque puncto albo. *Femina* major multo pallidior. Antennæ setaceæ, abdomine breviore et crassiore; in cæteris mari simillima.
Obs. *Mas* ubique et celerrime volat per diem, (ni pluvia moneat alas citius claudi,) et ubique Femina quærit.

Obs. 2. It is a frequent practice with our London Aurelians, when they breed a female of this and some other day-flying species, to take her whilst yet a virgin, into the vicinity of woods; where, if the weather is favourable, she never fails to attract a numerous train of the males, whose only business appears to be an incessant, rapid, and undulating flight, in search after their *unimpregnated* females. One of which is no sooner perceived, than they become so much enamoured of their fair and chaste relation, as absolutely to lose all kind of fear for their own personal safety, which at other times is effectually secured by the reiterated evolutions of their strong and rapid wings. So fearless indeed have I beheld them become on these occasions, as to climb up and down the sides of the cage which contained the dear object of their eager pursuit; in exactly the same hurrying manner as Honey Bees which have lost themselves, climb up and down the glasses of a window.

Whilst under this enervating fascination, if you even handle them, or suffer them to creep buzzing through your hands, they are not alarmed, as they would be at another time; but continue to urge their pursuit as before; endeavouring to gain admittance into the cage. Of course any quantity of them may be readily taken and secured. In about four hours after the Aurelians have thought proper to admit a male of their liking into the cage, to the poor drowsy object of all this anxiety, she will not fail to deposit a great quantity of large *impregnated eggs*, of an oval shape and whitish colour; blotched with darker marks; in miniature pretty much resembling those of a common Sparrow. It is very necessary to be remarked, that the manners of this quiet captive female do not in any respect resemble those of her violent and restless partner: her disposition being sluggish and torpid in the extreme; she very rarely uses her wings, and appears much more inclined to repel than encourage the advances of her ravisher.

The Aurelians call such a wedding as the above, a *sembling* (*assembling*) *match!* and never succeed with any but a virgin female! By what unknown and perhaps unnamed power, the males distinguish between a married female and one that has never been impregnated, I know not, and should be glad to learn. But that they can and do make an unerring discrimination between the two, is well known to most Aurelians. They avoid the latter, and never approach her; while for the former they display all the solicitude and anxiety I have above so fully explained. There was once an instance of a male creeping into the pocket of an Aurelian, which contained a virgin female in his pocket-box.

B. M. (The Grass Eggar) Alis in utroque sexu griseo-ferrugineis striga punctoque albis, posticis immaculatis. *Trifolius.* 6.

B. Trifolii Fab. Ent. Syst. 3. 423. 52.—*Fab. Mant. Ins.* 2. 112. 46.—*Gmel. Syst. Nat.* 2411.—*Turt. Syst. Nat. p.* 200.—*Villars*, 2. 136. 30.—*Hüb. Schmet.* 39. 171.—*Wilks, pl.* 47.—*Lewin in Trans. Linn. Soc. v.* 3. *pl.* 4. *f.* 1.—*B. Trifolii Panz. Faun. Germ. α Fem.—Admiral's Ins. t.* 31.—*Esper Schmet.* 3. *t.* 15.—*Roesel. Ins. cl.* 2. *t.* 35.—*Sepp. Ins. v.* 2. *t.* 13. *Larva. t.* 14. *Imago.*

Habitat valde infrequens *Larva* in Trifolio. *Puppa* in Folliculo. *Imago* f. Mai. Compascuis. Mas v. d.

Expansio alarum, M. 2 unc. 2 lin. F. 2 unc. 5 lin.

Descriptio. *Larva* solitaria pilosa, dilute fusca, incisuris cœrulescenti punctatis, collari rubro. *Fab.*

Puppa folliculata, antice flava, postice brunnea. *Fab.*

Imago præcedenti valde affinis at minor: et alis in utroque sexu griseis, basi saturatioribus, puncto albo obscuriore: *Posticæ* griseæ immaculatæ. Femina major magisque cervina.

Obs. The Larvæ of this species secrete themselves by day under loose stones. The Charadrius Oedicnemus (thick-kneed Bustard) preys upon them, and, ingeniously enough, turns up the stones to come at them.

B. M. (The Fox) Alis omnibus cervinis immaculatis, strigis duabus albidis. *Rubus.* 7.

B. Rubi Linn. Faun. Suec. 1103.—*Linn. Syst. Nat. tom.* 2. *p.* 813. 21.—*Gmel. Syst. Nat.* 2409.—*Turt. Syst. Nat. p.* 203.—*Villars Ent.* 2. 122. 9.—*Hüb. Schmet. pl.* 39. 174.—*Esper Schmet.* 3. *t.* 9.—*Fab. Ent. Syst.* 3. 427. 65.—*Fab. Syst. Ent.* 2. 565. 35.—*Fab. Mant. Ins.* 2. 113. 59.—*Fab. Spec. Ins.* 2. 178. 51.—*Scopol. Carn.* 492.—*Müll. Zool. Dan.* 1350.—*Berk. Syn.* 1. 133. 3.—*Donov. Br. Ins.* 87. *Mas.*—*Harris Aur. t.* 2. *d. g.*—*Wilks, pl.* 54.—*Roes. Ins. cl.* 2. 49.—*Sepp. Ins. v.* 2. 2. *t.* 7. *et* 8. *Larva. t.* 9. *Imago.*—*Admiral Ins. t.* 32. *fig. mag.*—*SebaThes.* 4. 51. *A. Mas. B. Femina.*—*Albin's Ins.* 81.—*Schæf. Icon.* 178. 3. 4. *Mas.* 5. 6. *Fem.*

Habitat *Larva* in Rubo fruticoso Sept. et per hyemem totum. *Puppa* in Follicula dura. *Imago* i. Jun. Peridumetis. *Mas* volatu pomeridiano velocissimo et valde undulato frequens.

Expansio alarum, M. 2 unc. 5 lin. F. 2 unc. 8 lin.

Descriptio. *Larva* pilosa subtus nigra, supra ferruginea, annulis nigris: junior holosericea, nigra, annulis læte luteis. *Fab.*

Puppa folliculata, nigricans; annulis tribus luteis. *Fab.*

Imago. *Maris* Antennæ, Caput, Thorax, Abdomen Alæque omnes

omnes cervinæ; *primores* strigis duabus vix obliquis in medio; ciliisque in *posticis* albicantibus. *Femina* omnino pallidior seu flavicans ut in Femina Quercus.

Obs. The males of this species have the same manners as those of Quercus; but I never heard of the Aurelians *assembling* them, as they frequently do those of that species: although it is very probable any of our day-flying Bombyces would *assemble*, if their virgin females were carried to the usual places of their appearance in the winged state.

potatorius. 8. B.M. (The Drinker) Alis obsolete repandis griseis, flavo-nebulosis, strigis duabus brunneis, lunula punctoque albis.

B. potatoria Linn. Syst. Nat. tom. 2. p. 813. 23.—Gmel. Syst. Nat. 2410.—Turt. Syst. Nat. p. 201.—Villars Ent. 2. 123. 11.—Fab. Ent. Syst. 3. 425. 58.—Fab. Syst. Ent. 2. 564. 28. Fab. Mant. Ins. 2. 112. 52.—Fab. Spec. Ins. 2. 176. 43.—Berk. Syn. 1. 133. 4.—Hüb. Schmet. 41. 182-3.—Wilks, pl. 58.—Faun. Ingr. 665.—Müll. Zool. Dan. 1352.—Donov. Br. Ins. 148.—Harris Aur. t. 42. a. Mas.—Esper Schmet. 3. t. 11.—Roesel. Ins. cl. 2. t. 2.—Sepp. Ins. v. 1. 3. t. 8.—Merian Eruc. pars 3. pl. 34.—Albin's Ins. t. 17.—Seba Thes. 4. 53. D. Mas. et 4. 52. D. Fem.—Pet. Gaz. 45. 5.—Raj. Ins. 142. 3.—Schæf. Icon. 47. 10. 11.—Goed. Ins. 1. t. 12.—List. Goed. f. 82.

Habitat *Larva* in Graminibus elatis m. Jun. *Puppa* in Folliculis. *Imago* f. Julii Graminosis frequens.

Expansio alarum, M. 2 unc. 4 lin. F. 2 unc. 9 lin.

Descriptio. *Larva* caudata cristata, pilosa, lateribus albo maculatis. *Fab.*

Puppa folliculata brunnea: ova oblonga, plumbea, utrinque annulo punctoque medio viridibus. *Fab.*

Imago. Caput et Thorax brunnei. Abdomen luteo-griseum. *Alæ anticæ* griseæ, flavedine subnebulosæ; basi ad costam brunneæ, striga transversa subundulata versus basin, alteraque ante medium oblique ad apicem ducta, brunneæ: inter has in medio prope costam punctum album minus, et alterum majus sæpe luniforme. *Alæ posticæ* cervinæ immaculatæ, ciliis fulvicantibus. *Femina* iisdem notis, at omnino pallidior seu flavicans, ut in præcedentibus. *Alæ posticæ* obsolete-repandæ albicantes, striga obsoleta transversa, ciliis flavis.

Obs. This is the largest insect I ever took by the attraction of a *lighted candle in a dark night.* As this method is well worth the attention of those Aurelians who live in the vicinity of woods; I will here transcribe the method of doing it, as recommended by *Villars* in the preface to his 2d vol. p. 9.

" Ejusdem ordinis individua suis finguntur moribus. Inter " Lepidoptera, Phalænæ pleræque lucifugæ raro oculis sunt " obviæ; sed lumen solare fugientes, lumine candelarum " lampadumque, nescio qua ratione, attrahuntur; inde per " noctem obscuram in cubicula illuminata intrant, et in vena- " toris manum copiose incidunt. Luminis aditus, vitre ope, " accurate interdicatur, ne Tineæ, Pyralides, Tortrices, &c. " seipsos accendant aut contaminentur. Ad jucundam hanc " venationem conclavia nuda aliis feliciora, presertim si sylvæ " vicinæ fenestræ sint oppositæ. Phalænæ quæ oculos fugi- " erunt, postera die ad fenestras turmatim accurrent, ibique, " fenestris clausis, facile capientur; sed lunæ oppositio vitan- " da est, vigiliæ enim nocturnæ tunc prorsus inutiles, ex loco " venatus Araneas expelle; Phalænas retibus involventes, de- " vorant spemque venatoris fallunt: sic Lepidoptera, quorum " erucæ rarissimæ, lumine decepta imprudenter noctu oculis " in vanum sese non offerunt. Sphinges, Bombyces, Noctuæ- " que majores introitum susurrone annunciant. Fenestras " claude, ne fenestras adeant citiusque elabantur. Non so- " lum Phalænæ sed quædam Coleoptera, quidam Cimices, &c. " hujus manubrii ope, vigilias solvent."

B. M. (The Lobster) Alis rufo-cinereis fasciis duabus linearibus luteis flexuosis. *Fagus.* 9.

B. Fagi Linn. Faun. Suec. 1113.—*Linn. Syst. Nat. tom.* 2. *p.* 816. 30.—*Gmel. Syst. Nat.* 2413.—*Turt. Syst. Nat. p.* 200.—*Fab. Ent. Syst.* 3. 422. 51.—*Fab. Syst. Ent.* 2. 562. 23.—*Fab. Mant. Ins.* 2. 111. 47.—*Fab. Sp. Ins.* 2. 175. 38.—*Villars Ent.* 2. 129. 18.—*Hüb. Schmet. pl.* 8. 31.—*Esper Schmet.* 3. *t.* 20.—*Donov. Br. Ins.* 328. *Figura nimis aurata et argenteata. Insecta ipsa nec auro nec argento gaudet.—Müll. Zool. Dan.* 1356.—*Alb. Ins.* 58.

Habitat rarissime apud nos *Larva* in Fago, Quercu, Corylo, Betula. *Puppa* in Follicula. *Imago* m. Jun. Truncis.

Expansio alarum Fem. 2 unc. 7 lin.

Descriptio. *Larva* brunnea dorso dentato, pedibus sex anterioribus elongatis, cauda reflexa cornicibus duobus. Quiescit capite caudaque elevatis, pedibus anticis pendentibus. *Fab.*

Puppa folliculata brunnea. *Fab.*

" *Antennæ* visæ sunt Noctuæ in speciminibus lectis, forte femi- " na, tamen ob habitum inter Bombyces retuli, donec certiora " innotescant de insecto, nisi fugitivis oculis, a me non viso." *Linn. Faun.* l. c.

Obs. Mas hujus singularis species, in *Musæo Aurèliano* nondum invenitur: sed femina tantum, (nimis manca pro descriptione) ut olim in Musæo ipsius Linnæi.

†† Atro undati

†† Atro-undati (*The Black-waved*). *Alis præcipue femineis albidis vel albis atro-undatis vel atro-maculatis.*

Vinulus. 10. B. M. (The Puss) Alis albidis fusco arcuatis, venis antice luteis postice fuscis, punctisque tranversis atris.

B. Vinula Linn. Faun. Suec. 1112.—*Linn. Syst. Nat. tom.* 2. *p.* 815. 29.—*Gmel. Syst. Nat.* 2412.—*Turt. Syst. Nat. p.* 203.—*Fab. Ent. Syst.* 3. 428. 6.—*Fab. Syst. Ent.* 2. 566. 36.—*Fab. Mant. Ins.* 2. 113. 60.—*Fab. Sp. Ins.* 2. 178. 52.—*Villars Ent.* 2. 128. 17.—*Ent. Par.* 258. 5.—*Müll. Zool. Dan.* 1355.—*Faun. Ingr.* 668.—*Scopol. Carn.* 488.—*Berk. Syn.* 1. 134. 8.—*Wilks, pl.* 29. *fig. majores.*—*Donov. Br. Ins.* 85. *Fem.*—*Harris Aur. t.* 38. *e. f.*—*Merian Eruc. pars* 3. *pl.* 39.—*Albin's Ins.* 11.—*Roesel. Ins.* 1. *phal.* 2. *t.* 19.—*Sepp. Ins. v.* 1. 3. *t.* 5.—*Schæf. Icon.* 145. 1. *Mas.* 2. *Fem.*—*Seba Thes.* 4. 50. *f.* 20-22.—*Raj. Ins.* 153. 5.—*Esper Schmet.* 3. *t.* 18. *f.* 1. 2.—*Goed. Ins. vol.* 3. *pl. c.*—*List. Goed.* 1. *f.* 20.—*Mouf. Ins.* 183. 10. *Larva.*—*Phalæna diurna major De Geer Gen. Ins.* 38. 53.

Habitat *Larva* in Salice alba, i. Aug. *Puppa* in Follicula durissima. *Imago* Salicetis, infrequens.

Expansio alarum M. 2 unc. 8 lin. F. 3 unc. 3 lin.

Descriptio. *Larva* solitaria gibba, viridis dorso fusco cauda bisetâ, exspuit humorem acrem e rima sub capite. *Fab.*

Puppa folliculata fusca. *Fab.*

Imago. Antennæ nigræ, in utroque sexu valde pectinatæ (at magis in mare). Thorax cinereus atro obsolete punctatus. *Abdomen* albidum semicingulis dorsoque nigris. *Alæ* maris albidæ subnudæ et fere hyalinæ; costa nigro punctata; venis antice flavicantibus, punctoque baseos alarum solitario: tunc ordines duo transversi punctorum atrorum approximati: tunc striga undulata sesquialtera ante medium, fusca: pone medium lunula nigra extrorsum spectans; pone hanc usque ad apicem, alæ magis hyalinæ sunt, cum strigis duabus inter lunulam et apicem undulatissimis fuscis. Venæ postice fuscescunt. *Alæ posticæ* subhyalinæ venis lutescentibus, lunula media subtus costam, punctoque uno alterove ad marginem posticum versus angulum ani, fuscis. Femina major magisque cinerea, marginibusque postieis fusco punctatis.

Obs. In almost all insects, the males are much more frequently found than the females: but it is the very reverse in this species, and more so still in *Quercifolius*, the male of which I have only twice beheld. The reason of this great deviation from the general law we have yet to learn. Perhaps the male

Larvæ

Larvæ are bolder than the females, and expose themselves more in consequence of it, to the destructive attacks of *Ichneumon* flies.

It is the business of peculiar female *Ichneumons* to insert one or more of their eggs into the soft bodies of peculiar Lepidopterous Larvæ. These eggs in due time hatch and become maggots, which eat the very substance of those Larvæ, whilst yet alive, in a most miserable manner; instinctively leaving the vital parts until the very last.

Inevitable death to the poor afflicted Larvæ is the certain consequence, *if left to themselves*. Some die before they become *Puppæ*. Others have strength enough left to effect the arduous task of transformation, yet die speedily after. But the experienced Aurelian can sometimes cure them: he distinguishes an *Ichneumoned* caterpillar, from another that is not injured, by one or more certain *blackish specks*; which, if the maggots are yet in the egg, look turgid, somewhat like nits; in which state they are readily extracted by a pair of small pliers, which most Aurelians carry about them for this very purpose. If the operation is delicately performed, the Larvæ never fail to recover.

This lingering consumption of a living animal, by another living animal, whilst the former continues to live, as the *regular and proper food* of the latter, and for want of which it must become *extinct, and leave a gap in Nature's chain, which Nature's self would rue* (*a*), is perhaps, the greatest instance of *apparent, but not real, cruelty*, in art or nature ever known. The reason why it is *not real* is, the *sluggish* nature of the animal preyed on; and its consequent *incapacity* of receiving pain, in the acute manner that livelier animals are well known to do. For a further elucidation of this opinion, I refer the reader to my observations under the article *Cossus*.

B. M. (The black Arches) Alis albis atro valde undatis, incisuris abdominis sanguineis. *Monachus.* 11.

B. Monacha Linn. Faun. Suec. 1130.—*Linn. Syst. Nat. tom.* 2. *p.* 821. 43.—*Gmel. Syst. Nat.* 2412.—*Turt. Syst. Nat. p.* 211.—*Fab. Ent. Syst.* 3. 446. 119.—*Fab. Syst. Ent.* 2. 574. 58.—

(*a*) Vide the beautiful lines of the amiable and intelligent Stillingfleet, in p. 7 and 8 of the Preface to Pennant's 4th vol. *Br. Zoology*.

Fab.

Fab. Mant. Ins. 2. 120. 104.—*Fab. Spec. Ins.* 2. 188. 81.—*Villars Ent.* 2. 143. 43.—*Hüb. Schmet. pl.* 19. 74.—*Ent. Par.* 260. 9.—*Scop. Carn.* 190.—*Müll. Zool. Dan.* 1362.—*Faun. Ingr.* 667.—*Donov. Br. Ins.* 227.—*Wilks, pl.* 39.—*Merian Eruc. pars* 2. *pl.* 22. *et pl.* 27. *Mas.*—*Roesel. Ins. tom.* 1. *t.* 23.—*Esper Schmet.* 3. *t.* 37. *f.* 1. 2.—*Berk. Syn.* 1. 136. 16.—*Schæf. Icon.* 48. 2. 3. *Mas.* 9. 10. *Fem.*

Habitat *Larva* f. Jun. in Quercu. *Imago* f. Jun. et f. Aug. Truncis Quereûs.

Expansio alarum M. 1 unc. 10 lin. F. 2 unc. 3 lin.

Descriptio. *Larva* fusco cinerea fasciculis dorsi rubris segmento secundo macula cordata nigra. *Fab.*

Puppa nigra. *Fab.*

Imago. Maris Thorax albidus, antice lunula, puncto medio duobusque lateralibus nigris. *Alæ anticæ* albæ punctis variis atris versus basin vix confluentibus; puncto solitario ante medium; striis 3 seu 4 valde undatis et intricatis pone medium; tunc ordine punctorum marginali, atris. *Posticæ* cinerascentes margine postico fuscescente sed albo aliquo interrupto, ciliis albis atro maculatis. *Femina* major magisque alba, minus punctata undis atris paulo validioribus. *Alæ posticæ* albicantes, fascia postica fusca albo obsolete interrupta, ciliis albis atro maculatis.

disparus. 12. B. M. (The Gipsy) Alis masculinis griseo fuscoque nebulosis, fœmineis albis lituris nigris.

B. dispar. Linn. Syst. Nat. tom. 2. *p.* 821. 44.—*Gmel. Syst. Nat.* 2422.—*Turt. Syst. Nat. p.* 207.—*Villars Ent.* 2. 144. 44.—*Hüb. Schmet. pl.* 19. 72-3.—*Fab. Ent. Syst.* 3. 437. 94.—*Fab. Syst. Ent.* 2. 570. 49.—*Fab. Mant. Ins.* 2. 117. 86.—*Fab. Spec. Ins.* 2. 182. 66.—*Berk. Syn.* 1. 137. 17.—*Ent. Par.* 261. 14.—*Scop. Carn.* 491.—*Donov. Br. Ins.* 163.—*Wilks, pl.* 42.—*Panz. Faun. Germ. Mas et Fem.*—*De Geer Gen. Ins.* 36. 41.—*Roesel's Ins. cl.* 2. *t.* 3.—*Merian Eruc. pars* 1. *pl.* 18. *et pl.* 31. *Femina.*—*Albin's Ins.* 93. *e. d?*—*Esper Schmet.* 3. *t.* 38. *f.* 1. 2.—*Schæf. Icon.* 28. 3. 4. *Mas.* 5. 6. *Fem.*—*B. Dispar. Martyn's Vade mecum, article Pomiferous Trees, no.* 44.—*Gipsy. Dispar. Harris Aur. Comp.* 29. 30.

Habitat apud nos rarissima. *Larva* in Salice, *Imago* i. Aug. Salicetis.

Expansio alarum M. 2 unc. F. 3 unc.

Descriptio. *Larva* pilosa albo lineata punctis antice cæruleis, postice rubris, manus pruritu inficit. *Fab.*

Puppa

Puppa folliculata punctis quatuor anticis nigris, tacta in girum se volvit. *Fab.*

Imago. *Maris* Antennæ, Thorax gracileque Abdomen grisei. *Alæ primores* griseo-cinereæ undis fuscis obscurioribus, margine postico fuscescente, ciliis fuscis griseisque. *Alæ secundariæ* griseæ immaculatæ. *Femina* a mare toto cœlo discrepat, unde nomen triviale; magnitudo fere duplo major. Antennæ nigræ; Caput et lanatus Thorax albidus. Abdomen percrassum et obtusum ex albido griseum. *Alæ anticæ* albidæ nudiusculæ, lituris quatuor costalibus transversis punctoque atris. Subinde cinereo-nebulosæ ad medium marginis tenuioris; ciliis albis fuscisque. *Alæ posticæ* albidæ immaculatæ, margine postico subinde obsolete fusco punctato.

B. M. (The Leopard) Alis nudiusculis albis punctis numerosissimis atro-cyaneis, thorace duodecim atris. *Pyrinus.* 13.

Noctua Pyrina Linn. Faun. Suec. 1150.—*Noctua Æsculi Villars* 2. 190. 148.—*Cossus Æsculi Fab. Ent. Syst.* 3. 4. 4.—*Bombyx Æsculi Fab. Mant. Ins.* 2. 116. 85.—*B. Æsculi Gmel. Syst. Nat* 2438.—*B. Æsculi Esper Schmet.* 3. *t.* 62.—*B. Æsculi Donov. Br. Ins.* 152.—*Harris Ins. Ang. t.* 2. *f.* 3. 4.—*Schæf. Icon.* 31. 8. 9. *Fem.*—*Mouf. Ins.* 92. 14.

Habitat valde infrequens (præcipue Mas) apud nos; *Larva* in medullo Pyri, Æsculi, Ulmi; *Imago* i. Jul. Truncis prope Londinum—et prope Wisbeach com. Cantab. W. et Dr. F. Skrimshire.

Expansio alarum M. 2 unc. 2 lin. F. 2 unc. 10 lin.

Descriptio. Maris Antennæ nigræ breves a basi ad medium valde pectinatæ; sed a medio ad apicem omnino setaceæ. Thorax niveus maculis 12 atris. 2.-4.-4.-2. *Alæ anticæ* nudiusculæ, obsolete hyalinæ, costa venisque lutescentibus, punctis innumeris atro-cyaneis undique crebre sparsis. *Posticæ* minus punctatæ (marginibus exceptis), punctis pallidioribus; ad angulum interiorem immaculatæ. *Femina* multo major. *Antennæ* setaceæ venis magis lutescentibus punctisque magis cyaneis.

Obs. Bombycibus veris nimis discrepat. An vere affinior *Hepialis?* An potius cum ceteris *Cossis* Fabricii, Genus bonum et satis distinctum constituit?

††† Gracilicornes (*Slender-horned.*) *Antennis minus pectinatis quam in præcedentibus.*

+ Nobiles (*Nobles.*) *Alis sine rubro colore.*

B. M. (The Goat) Alis cinereis fuscis nebulosis, atro striatis; thorace exalbido fascia postica atra. *Cossus:* 14.

Linn. Faun. Suec. 1114.—*Linn. Syst. Nat. tom.* 2. *p.* 827. 63. —*Gmel. Syst. Nat.* 2431.—*Fab. Ent. Syst.* 3. 3. 1. *Cossus ligniperda.*—*Fab. Syst. Ent.* 2. 569. 48.—*Fab. Mant. Ins.* 2. 116. 83.—*Fab. Spec. Ins.* 2. 182. 65.—*Villars Ent.* 2. 168. 95.—*Ent. Par.* 258. 4.—*Müll. Zool. Dan.* 1372.—*Berk. Outl.* 1. 138. 27.—*Faun. Ingr.* 692. *Cossus ligniperda.* —*Scop. Carn.* 500.—*Donov. Br. Ins.* 114.—*Harris Aur. t.* 23.—*Wilks, pl.* 31.—*Theologie des Insectes, fig.* 17-22.—*Merian Eruc. pars* 3. *pl.* 36.—*Roes. Ins. cl.* 2. 18.—*Seba Thes.* 4. 49. *C. et* 4. 51. *M.*—*Raj. Ins.* 150. 2.—*Esper Schmet.* 3. *t.* 61.—*Albin's Ins.* 35.—*Schæf. Icon.* 41. 1. 2. —*Pet. Gaz.* 51. 9.—*Goed. Ins.* 2. *pl.* 33.—*List. Goed. fig.* 39. —*Mouf. Ins.* 106. *f.* 1.

Habitat paulo infrequens *Larva* in Ligno putrescente, vel subinde in Radicibus Plantarum; per tres annos vivat et crescit. *Imago* f. Junii Truncis.

Expansio alarum M. 3 unc. 3 lin. F. 3 unc. 7 lin.

Descriptio. *Larva* maxima subpilosa dorso sanguineo, subtus lutescente, capite anoque atris, stigmatibus utroque 8 fuscis.

" Romanis in hoc luxuria esse cæpit, prægrandesque roborum " vermes delicatiore sunt in cibo, Cossos vocant, atque etiam " farina saginati: hi quoque altilis fiunt." *Villars*, l. c. *ex Plin.* xvii. 24.

Puppa læviter follículata brunnea, incisuris ciliatis.

Imago. Thorax fuscus antice albo, postice albicante, fascia angulata nigra. Abdomen percrassum fuscum incisuris albo marginatis. *Alæ anticæ* cinereo fuscoque nebulosæ strigis numerosis transversis fuscis, tribusque aliquo majoribus versus marginem posticum atris. *Alæ posticæ* magis cinereæ, minus striatæ. *Femina* mari simillima, at paulo major, antennæque minus pectinatæ seu setaceæ.

Obs. The larger Moths are very tenacious of life, and difficult to kill without spoiling them: the usual way of compressing the *thorax* is not sufficient: they will live several days after the most severe pressure has been given there; to the great uneasiness of any humane Aurelian. The methods of suffocation by tobacco or sulphur are equally inefficacious, unless continued for a greater number of hours than is proper for the intended preservation of the specimens. Another mode now in practice is better; and however fraught with cruelty it may appear to the inexperienced collector, is the greatest piece of *comparative mercy* that can, in this case, be administered. When the larger Moths must be killed; destroy them at once, by the *insertion of a strong red-hot needle into their thickest parts, beginning at the front of the thorax.* If this is properly done, instead

instead of *lingering through several days, they are dead in a moment.* It appears to me, however, that insects being animals of *cold and sluggish juices*, are not near so susceptible of the sensation we call pain, as those which enjoy a warmer temperature of body, and a swifter circulation of fluids. To the philosophic mind it is self-evident that they have not such acute organs of feeling pain, as other animals of a *similar size*, whose juices are endowed with a quicker motion, and possess a constant, regular, and genial warmth; such as young mice, or the naked young of small birds: if any of these have the misfortune to lose their heads or limbs from force, speedy death is the certain consequence: but insects, under similar circumstances, it is well known, are capable of surviving a considerable time. A forcible instance of this kind once occurred to my tutor in Entomology. He had a *Goat-moth* (Cossus) *whose head happened to be quite eaten off by some mouse*, notwithstanding which it lived several days in a decapitated state, without appearing less lively for it, and was at length killed by other means.

Indeed, indeed, I cannot think that

—" The poor Beetle which we tread upon,
" *In corporal sufferance feels a pang as great*
" *As when a giant dies.*"

Nor can it be regretted that I differ from our great poet on this particular point, because the difference may ease the humane Entomologist of many a rising qualm.

If insects were in reality possessed of the degrees of feeling pain, that have been erroneously attributed to them, they would never survive the loss of limbs forcibly torn off, as often happens to fighting Crabs, fighting Spiders, and Tipulæ self-extricated from children's hands, or spider's webs, with the dear-bought ransom of their joints. Neither would common Flies live long without their heads, wings, or other parts; or Coleopterous Insects just escaped from the perforation of an Aurelian's pin, attempt to copulate with their mates:—yet all these things I have myself been an eye-witness to their doing. These facts, and these remarks, are surely capable of removing the numerous charges of cruelty, which have hitherto attached to the Collector of Insects. The cruelty daily practised by our London fishmongers is surely as great, in crimping cod-fish (which can only be done while they are alive), and in keeping up the miserable remains of life, in all other fish, as long as possible after they are caught, by reiterated waterings upon their leaden stalls, from the

Expansio alarum M. 2 unc. 10 lin. F. 3 unc.

Descriptio. *Larva* solitaria nigra hirta segmentis utrinque punctis tribus elevatis cœrulescentibus. *Fab.*

Puppa folliculata nigra. *Fab.*

Imago. Antennæ fuscæ, rachi alba. Caput et Thorax fuscus postice ruber. Abdomen rubrum incisuris dorso, nigro fasciatis. *Alæ posticæ* rubræ ciliis pallidioribus, maculis circiter sex sesquialtero rotundis nigris nitidis, certo situ tinctura cœrulea, fulvo aliquo marginata. Femina simillima, at antennæ omnino setaceæ.

Obs. Maculæ sæpe variant magnitudine et numero.

β. Alis sine rubro colore. *Hüb. Schmet. pl.* 30. 130.

villicus. 17. B. M. (The cream-spot Tyger) Alis atris maculis octo flavicantibus, posticis fulvicantibus atro maculatis.

B. villica Linn. Syst. Nat. tom. 2. *p.* 820. 41.—*Gmel. Syst. Nat.* 2420.—*Turt. Syst. Nat. p.* 222.—*Fab. Ent. Syst.* 3. 468. 192.—*Fab. Syst. Ent.* 2. 581. 85.—*Fab. Mant. Ins.* 2. 128. 168.—*Fab. Sp. Ins.* 2. 197. 118.—*Vill. Ent.* 2. 141. 41.—*Panz. Faun. Germ.*.....—*Ent. Par.* 259. 7.—*Scop. Carn.* 504.—*Müll. Zool. Dan.* 1360.—*Berk. Syn.* 1. 135. 14. —*Schæf. Icon.* 130. 1. *Mas.*—*Roesel. tom.* 4. *t.* 28. *et tab.* 29. *f.* 1.—*Sepp. Ins. v.* 1. 3. *t.* 16.—*Wilks, pl.* 37.—*Donov. Br. Ins.* 93. *Fem.*—*Harris Aur. t.* 4. *fig.* 3. *majores.*—*Albin's Ins.* 21. 29.—*Esper Schmet.* 3. *t.* 35.—*Pet. Gaz.* 23. 12. *Fem.*—*Raj. Ins.* 156. 8.

Habitat rarius *Larva* in Senecione, Maio. *Imago* i. Jun. Sylvaticis.

Expansio alarum M. 2 unc 3 lin. F. 2. unc. 4 lin.

Descriptio. *Larva* hirsuta nigricans, fulvo maculata, capite pedibusque rufis. *Fab.*

Puppa folliculata nigra. *Fab.*

Imago. Antennæ, Caput et Thorax nigri, lateribus antice macula flava. Abdomen rubrum trifarie atro punctatum. *Alæ anticæ* atræ maculis sæpius 8, flavæ, 1 spatulata et subinde emarginata basi, 4 in medio minores, 3 posticæ sæpe majores. *Alæ posticæ* fulvicantes, maculis parvis sæpius 5 disci, fasciaque ad apicem atris. Femina simillima.

Obs. Maculæ sæpe variant magnitudine et numero.

plantagineus. 18. B. M. (The Wood Tyger) Alis atris rivulis flavis, inferioribus fulvicantibus atro-maculatis.

B. Plantaginis Linn. Faun. Suec. 1132.—*Linn. Syst. Nat. tom.* 2. *p.* 820. 42.—*Gmel. Syst. Nat.* 2421.—*Turt. Syst. Nat. p.* 211. —*Fab.*

Fab. Ent. Syst. 3. 466. 186.—*Fab. Syst. Ent.* 2. 580. 83.—*Fab. Mant. Ins.* 2. 127. 63.—*Fab. Spec. Ins.* 2. 196. 15.—*Villars Ent.* 2. 142.—*Hüb. Schmet. pl.* 29. 127.—*B. Plantaginis Panz. Faun. Germ.* ♂.—*Donov. Br. Ins.* 134. *Mas.*—*Harris Aur. t.* 16. *i. b.*—*Wilks, pl.* 50.—*Scopol. Carn.* 505.—*Müll. Zool. Dan.* 1361.—*Faun. Ingr.* 684.—*Esper Schmet.* 3. *t.* 36. *f.* 2. 5.—*Roes. Ins. tom.* 4. 24. *f.* 8. *a. Mas.*—*Berk. Syn.* 1. 135. 15.—*Schæf. Icon.* 92. 5. 6.

Habitat rarius *Larva* in Plantagine i. Maii. *Imago* i. Jun. Sylvaticis. Mas volatu diurno graviori.

Expansio alarum 1 unc. 8 lin.

α. Descriptio. Maris abdomen fulvum dorso nigrum; *alæ anticæ* atræ punctis anticis tribus subtus costam, fasciaque a basi versus apicem longitudinaliter ducta, in cruce magna dentata terminata, flavis. *Alæ posticæ* flavicantes maculis irregularibus longis atris, margine postico interrupte atro; ciliis fulvis.

Femina simillima. *Alæ posticæ* fulvicantes basi late, maculisque posticis atris.

β. Varietas Feminæ. *Alis posticis* rufis seu coccineis, atro maculatis.

B. Plantaginis ♀ *Panz. Faun. Germ.*—*Hub. Schmet. pl.* 29. 128.—*Roesel. Ins. tom.* 4. 24. *f.* 9. *et B.*—*Schæf. Icon.* 92. 7. *Fem.*—*Esper Schmet.* 3. *t.* 36. *f.* 1.

Habitat apud nos rarissime, et nunquam cum *α.* In com. Ebor. semel capta amicissimo meo Chiliarcho Machell.

** DENITGERI (*Prominents.*) *Alis dentatis vel dorso dentigeris.*

† Dentatæ (*Dentated.*) *Alis dentatis et sæpe dorso dentigeris.*

B. D. (The Lappet) Alis dorso bidentigeris ferrugineis, ore, strigis subtribus, margineque postico, nigris. *quercifolius.* 19.

B. quercifolia Linn. Faun. Suec. 1110.—*Linn. Syst. Nat. tom.* 2. *p.* 812. 18.—*Gmel. Syst. Nat.* 2400.—*Turt. Syst. Nat. p.* 199.—*Fab. Ent. Syst.* 3. 420. 42.—*Fab. Syst. Ent.* 561. 19.—*Fab. Mant. Ins.* 2.—*Fab. Spec. Ins.* 2. 173. 32.—*Villars Ent.* 2. 120. 7.—*Hüb. Schmet. pl.* 43. 187. 8.—*Ent. Par.* 260. 11.—*Donov. Br. Ins.* 232. *Fem.*—*Harris Aur. t.* 43. *a.*—*Wilks, pl.* 57.—*Scopol. Carn.* 485.—*Faun. Ingr.* 662.—*Müll. Zool. Dan.* 1349.—*Albin's Ins.* 16.—*Merian Eruc. pars* 1. *pl.* 17. *et pl.* 32. *Femina.*—*Schæf. Icon.* 71. 3. 4. *Fem.*

3. 4. *Fem.*—*Esper Schmet.* 3. *t.* 6.—*Roesel. Ins. cl.* 2. 41.—*Raj. Ins.* 141. 1.

Habitat valde infrequens *Larva* in Pruno spinoso f. Mai. *Imago* i. Jul. Peridumetis. Mas rarissimus

Expansio alarum M. 2 unc. 9 lin. F. 3 unc. 3 lin.

Descriptio. *Larva* subcaudata pilosa, ferruginea, collaribus cœrulescentibus. *Fab.*

Puppa folliculata fusca fasciis rubris. *Fab.*

Imago. Maris antennæ griseæ rachi flavicante valde pectinatæ. Palpi nigri porrecti. Thorax ferrugineus lævis. *Alæ omnes* dentatæ, *anticæ* ferrugineæ strigis tribus obliquis undatis, punctoque minuto medio atris, valde obsoletis. *Posticæ* fusco-ferrugineæ immaculatæ. Femina major, antennæ nigræ minus pectinatæ, strigis undatis aliquo saturatioribus.

palpinus. 20. B. D. (The pale Prominent) Alis dorso bidentigeris albido-griseis nigro-venosis, palpis porrectis pennaceis.

B. palpina Linn. Faun. Suec. 1146.—*Linn. Syst. Nat. tom.* 2. *p.* 828. 64.—*Gmel. Syst. Nat.* 2431.—*Turt. Syst. Nat. p.* 213.—*Fab. Ent. Syst.* 3. 448. 129.—*Fab. Syst. Ent.* 2. 575. 64.—*Fab. Mant. Ins.* 2.—*Fab. Spec. Ins.* 2. 189. 88.—*Villars Ent.* 2. 169. 96.—*Scop. Ins. v.* 1. 3. *t.* 4.—*De Geer Gen. Ins.* 39. 63.—*Esper Schmet.* 3. *t.* 63. *f.* 1-4.

Habitat valde infrequens *Larva* f. Mai. f. Sept. in Populo. *Imago* i. Jul. i. Sept. Populetis.

Expansio alarum M. 1 unc. 10 lin. F. 2 unc.

Descriptio. *Larva* solitaria nuda, viridis, linea laterali flava. *Fab.*

Puppa brunnea obtusiuscula.

Imago. Thorax cristatus. Mas magis griseus quam femina. *Alæ posticæ* integræ cinereæ. Femina paulo pallidior venis nigricantibus postice quasi bipunctatis, unde striga geminata postica, at satis obsoleta, punctorum nigrorum. Margo posticus nigro punctatus punctis venis interjectis.

camelinus. 21. B. D. (The Coxcomb Prominent) Alis dorso unidentatis ferrugineis striga obliqua postica obsoleta pallidiore, anguloque ani fusca.

B. camelina Linn. Faun. Suec. 1145.—*Linn. Syst. Nat. tom.* 2. *p.* 832. 80.—*Gmel. Syst. Nat.* 2438.—*Turt. Syst. Nat. p.* 213.—*Fab. Ent. Syst.* 3. 450 133.—*Fab. Syst. Ent.* 2. 575 66.—*Fab. Mant. Ins.* 2. 122. 124.—*Fab. Spec. Ins.* 2. 190 91.—*Villars*, 2. 186. 138.—*Hüb. Schmet. pl.* 5. 19.—*Esper Schmet.* 3. *t.* 70. *f.* 2.—*Donov. Br. Ins.* 183.—*Müll. Zool.*

Zool. Dan. 1378.—*Albin's Ins.* 49. *a.*—*Roesel. cl.* 2. 28.—*Scpp. Ins. v.* 1. 10. 11.

Habitat frequens *Larva* in Quercu, m. Mai. f. Sept. *Imago* i. Mai. i. Aug. Quercetis.

Expansio alarum M. 1 unc. 7 lin. F. 1 unc. 9 lin.

Descriptio. *Larva* nuda virescens, corniculis duobus caudalibus stigmatibus purpureis. *Fab.*

Purpa folliculata, antice brunnea, postice fulva. *Fab.*

Imago. Maris antennæ minus pectinatæ quam in plurimis, ferrugineæ; Palpi nigri; Thorax cristatus ferrugineus. Abdomen et *alæ posticæ* integræ rufescentes, fimbria saturatiore. *Alæ anticæ* denticulatæ, basi striga tenuissima undata nigra, alteraque ante medium, et rudimentum tertiæ versus marginem posticum, ad costam: pone hanc puncta 4 costalia et striga pallescens obliqua at valde obsoleta. Denticuli alarum dorso fuscæ sunt. *Femina* magis ferruginea. Antennæ omnino setaceæ. Palpi ferruginei nec nigri: strigæ nigræ obliteratæ sunt. *Alæ posticæ* albicantes, fimbria venisque rufescentibus.

B. D. (The Maple Prominent) Alis dorso unidentatis ochraceis, limbo postico cinereo. *Cucullus.* 22.

B. Cuculla Donov. Br. Ins. 338. 1.—*Albin's Ins.* 49. *c. d.* ?

Habitat in Anglia rarissime. *Larva* in Acere campestre et forte in Quercu. *Imago* f. Jul. Quercu.

Expansio alarum M. 1 unc. 5 lin. F. 1 unc. 7 lin.

Descriptio. Antennæ ferrugineæ minime pectinatæ in mare: in femina omnino setaceæ. Thorax valde cristatus. Crista et caput et abdomen ochracea. *Alæ anticæ* costa a basi post medium late ochracea, limbo postico cinereo utroque linea undulata albida obsoleta indūcta et lineolis tribus atris distantibus intersecta, apice ceteraque parte alæ griseo-ferrugineis, ciliis pallidis ochraceo maculatis. Dens alæ validus ater. *Alæ posticæ* griseæ immaculatæ. Femina mari simillima, at major ut in affinibus.

Obs. The above description was taken from a fine pair of German specimens in the Aurelian cabinet. I have only seen three which have really been taken in England—one in the collection of my friend Mr. Francillon, and two in that of an old collector of the name of Cabriere, whose cabinet is now in the possession of Mr. Hook.

Obs. 2. Since the above was written, my friend Mr. Hatchett of Kingsland (a very acute and assiduous Aurelian) has taken two specimens, one of each sex, of this rare and fine

species, which he beat from an oak tree in the winged state, late in July 1803, at Erith near London.

libatricus. 23. B. D. (The Herald) Alis dentatis crosis griseis rufo-nebulosis, punctis duobus, strigaque geminata postica obliqua albis.

B. libatrix Linn. Faun. Suec. 1143.—*Linn. Syst. Nat. tom.* 2. *p.* 831. 78.—*Gmel. Syst. Nat.* 2441.—*Villars Ent.* 2. 185. 136. —*Müll. Zool. Dan.* 1377.—*Ent. Par.* 265. 26.—*Donov. Br. Ins.* 216.—*Scop. Carn.* 516.—*Noctua libatrix Fab. Ent. Syst.* 3. 64. 181.—*Rœmer Gen. t.* 21. *f.* 7.—*Sulz. Ins. t.* 21. *f.* 7. —*Roes. Ins. tom.* 4. *t.* 20.—*Sepp. Ins. v.* 1. 3. *t.* 15.—*Seba Thes.* 4. 48. *C.*—*Berk. Syn.* 1. 138. 30.—*Esper Schmet.* 3. *t.* 69. *f.* 4.—*Pet. Gaz.* 19. 4.—*Raj. Ins.* 183. 26.—*Schæf. Icon.* 124. 1. 2. *Mas.*—*Albin's Ins.* 32. 50.—*Goed. Ins.* 1. 67.—*List. Goed. no.* 46.—*Phalæna delicatula De Geer Gen. Ins.* 39. 63.

Habitat frequens *Larva* in Populo. *Imago* f. Ap. f. Aug. et subinde per Hyemem, Populetis.

Expansio alarum 1 unc. 10 lin.

Descriptio. Larva nuda viridis, flavo annulata, lineis tribus fuscis stigmatibusque rubris. *Fab.*

Puppa folliculata nigra. *Fab.*

Imago. Maris Antennæ griseæ, magis pectinatæ quam in præcedente puncto basi albissimo. Thorax cristatus antice rufus postice rufescens. Abdomen cinereum. *Alæ anticæ* puncto albissimo basi, tunc area magna rufa atomis flavicantibus, quæ marginem crassiorem non attingit: pone aream striga geminata obliqua alba intus fusca; inter hanc et basin striga altera transversa magis obsoleta albida, extus fusca; inter strigas prope costam, punctum albissimum. Postica pars alæ grisea est atomis saturationibus, cum striga valde obsoleta undata albicante. *Alæ posticæ* integræ fuscæ. Femora puncto antico albissimo. Pedes supra albissimi ferrugineo fasciati. Femina Mari simillima sed Antennis setaceis.

†† Integræ (*Intire-winged*). *Alis integris sed dorso dentigeris.*

tritophus. 24. B. D. (The great Prominent) Alis dorso unidentatis cinereo griseoque nebulosis, lunula media ferruginea albido cincta.

Fab. Ent. Syst. 3. 442. 108.—*Fab. Mant. Ins.* 2. 116. 99.—*Donov. Br. Ins. t.* 359. *at nimis picta.*—*Roesel. Ins. tom.* 1. *t.* 13.

t. 13. fig. B.—Sepp. Ins. v. 2. t. 6.—B. Tremulus Hüb. Schmet. pl. 70. 30.

Habitat apud nos rarissime *Larva* in Quercu, Sept. *Imago* i. Jul. Truncis.

Expansio alarum M. 2 unc. 3 lin. F. 2 unc. 5 lin.

Descriptio. *Larva* solitaria nuda viridis gibberibus dorsalibus tribus caudaque obtusa, capite fusco. *Fab.*

Imago. *Maris* Antennæ griseæ serrato-pectinatæ; feminæ thorax griseus fusco nebulosus. Abdomen fuscescens. *Alæ primores* strigis duabus undatis atris obsoletis et abbreviatis, una fere basi saturatior, altera ante medium; et inter has color saturatior quam in postica parte alarum, seu griseo-flavescens, in qua denticulus dorsi satis magnus et niger. Postica pars alæ cinerascit lunula obsoleta ferruginea, albido cincta pone medium, et pone hanc striga undata valde obsoleta et fere obliterata; tunc lineolæ duæ versus apicem, ordoque macularum ferruginearum versus marginem posticum. Margo ipse lunulis fuscis, ciliis fuscescentibus immaculatis. *Alæ posticæ* albicantes linea marginali fusca. Femina simillima antennis setaceis.

B. D. (The Swallow Prominent) Alis dorso unidentatis extus plaga magna albida, posticis albis angulo ani fusco. *Tremulus.* 25.

B. Tremula Linn. Faun. Suec. 1121. *et non Fab. quæ diversa est, et nondum in Britannia inventa.—Linn. Syst. Nat.*..... —*Gmel. Syst. Nat.* 2429.—*B. Dictæa Ent. Syst.* 3. 443. 111.—*B. Dictæa Spec. Ins.* 2. 187. 77.—*B. Dictæa Vill. Ent.* 2. 164. 92. *qui Tremula Fab. non enumerat.*—*B. Trepida Donov. Br. Ins.* 239. 1.

Habitat infrequens *Larva* in Populo Sept. *Imago* i. Jun. i. Aug.

Expansio alarum M. 2 unc. F. 2 unc. 3 lin.

Pupa subterranea fusca obtusa incisuris tumidis.

Descriptio. *Imago.* Antennæ ferrugineæ, in utroque sexu pectinatæ, sed minus in Femina. Thorax lævis, antice niger, postice fusco-cinereus. *Alæ primores* albicantes tinctura grisea, prope costam extremitatibus exceptis, late nigræ, præcipue versus apicem; margo tenuior a basi ad marginem posticum late nigricat, linea alba fracta intus instructus. Striga atra intus alba ad marginem posticum, venis grisescentibus intersecta. *Alæ posticæ* albæ angulo ani nigricante, lineola alba intersecta.

B. D. (The Pebble Prominent) Alis dorso unidentatis extus macula pallida quadrata costali, alteraque ocellari apicis fusco-ferruginea. *Zicznac* 26.

B. Zicznac

B. Zicznac Linn. Faun. Suec. 1116.—*Linn. Syst. Nat. tom.* 2. *p.* 827. 61.—*Gmel. Syst. Nat.* 2430.—*Turt. Syst. Nat. p* 209. —*Fab. Ent. Syst.* 3. 442. 107.—*Fab. Syst. Ent.* 2: 573. 55.—*Fab. Mant. Ins.* 2. 116. 98.—*Fab. Spec. Ins.* 2. 18[illegible]. 76.—*Villars Ent* 2. 166. 93.—*Faun. Ingr.* 675.—*Müll. Zool. Dan.* 1371.—*Donov. Br. Ins.* 119.—*Wilks, pl.* 28.—*Albin Ins.* 14. 20.—*Roes. cl.* 2. 20.—*Scpp. Ins. v.* 1. 3. *t.* 12.—*Schæf. Icon.* 49. 2. 3.—*Goed. Ins.* 3. *pl. E.*—*List. Goed. f.* 21. —*Phalæna Zicznac trituberculata De Geer Gen. Ins.* 87. 51.

Habitat valde in frequens apud nos: frequentior in Norfolcia: *Larva* i. Aug. Salice, Populo; *Imago* i. Mai. i. Jul.

Expansio alarum M. 1 unc. 9 lin. F. 1 unc. 11 lin.

Descriptio. *Puppa* fusca leviter folliculata. Maris Antennæ griseæ minus pectinatæ quam in præcedente. Thorax ferrugineus subcristatus. *Alæ primores* antice pallide exustæ, macula quadrata alba ad medium costæ; altéraque magna ocellari ad apicem obscure violacea, venis atris secta, margine oculi hinc brunneo inde griseo: linea marginali atra, ciliis fuscis albo quandoque minime maculatis. Margo tenuior ater, ante medium denticulus ater exerens. *Alæ posticæ* cinerascentes linea marginali atra, ciliis ad angulum ani itidem atris, ceteris albidis. Fœminæ antennæ setaceæ. *Alæ inferiores* murinæ ciliis fuscis, sed ad angulum ani atris.

Obs. This species is very rare near London; but my friend the Rev. J. Furrell assures me, it is common in Norfolk upon the Balsam Poplar, or Tacamahac (Populus balsamifera); and actually pointed out to me several of the young Larvæ, which had secreted themselves under the leaves of a tree of that species, in the month of August 1801, which was at that time growing in his garden.

perfuscus. 27. * †

B. D. (The dark Prominent) Alis dorso unidentatis fusco-nebulosis fascia antica fusca, alteraque obliqua versus apicem obsolete dentata.

B. Torva Hüb. Schmet. 7. 27.?—*B. perfuscus Prod. Lep. Brit.* —*B. camelina Harris Eng. Ins. t.* 13. 5.

Habitat *Larva* in Quercu, in Anglia rarissima, Sept. *Puppa* sub Terra. *Imago* Junio Quercetis. In Museo amici mei D. Drury.

Obs. Statura B. Dromedarii, sed paulo major. Thorax nigricans; alæ inferiores albæ.

dromedarius. 28.

B. D. (The Iron Prominent) Alis dorso unidentatis, fusco-rufescentibus, strigis duabus dentatis albidis, posticis fuscis striga albida obscuriore.

Linn.

Linn. Syst. Nat. tom. 2. *p.* 827. 62.—*Gmel. Syst. Nat.* 2430.—*Fab. Ent. Syst.* 3. 444. 113.—*Fab. Mant Ins.* 2. 16. 102.—*Fab. Sp. Ins.* 2. 187. 78.—*Villars Ent.* 2. 167. 94.—*Hüb. Schmet. pl.* 7. 28.—*Donov. Br. Ins.* 350.—*Admiral's Ins. t.* 14.

HABITAT valde infrequens *Larva* in Quercu Sept. *Puppa* sub Terra. *Imago* i. Jun. i. Sept Quercetis.

EXPANSIO alarum M. 1 unc. 8 lin. F. 1 unc. 10 lin.

OBS. Thorax rufus lateribus fuscescentibus. In Museo amici mei D. Drury.

Larva solitaria nuda viridis, gibberibus quatuor dorsalibus caudalique reflexo. *Fab.* l. c.

B. D. (The small Iron Prominent) Thorace rufo alis rufescentibus strigis duabus obsoletis exteriore dentata. *dromedarulus.* 29.

HABITAT rarissime *Larva* Sept. Quercu *Puppa* sub Terra. *Imago* Junio. In Museo amici mei D. Drury cum duobus præcedentibus.

EXPANSIO alarum M. 1 unc. 6 lin. F. 1 unc. 8 lin.

OBS. Statura omnino præcedentium at paulo minor.

*** CINEREI (*Cinereous*). *Antennis valde pectinatis. Alis plus minusve cinereis strigis fasciisve saturatioribus.*

B. C. (The pale Tussock) Alis cinereis strigis tribus, ordineque punctorum marginali, fuscis. *pudibundus.* 30.

B. pudibunda Linn. Faun. Suec. 1118.—*Linn. Syst. Nat. tom.* 2. *p.* 824. 54.—*Gmel. Syst. Nat* 2427.—*Turt. Syst. Nat. p.* 207.—*Fab. Ent. Syst.* 3. 438. 97.—*Fab. Syst. Ent.* 2. 570. 50.—*Fab. Mant. Ins.* 2. 117. 88.—*Fab. Spec. Ins.* 2. 183. 68.—*Villars Ent.* 2. 160. 86.—*B. Juglandis Hüb. Schmet. pl.* 21. 84-5.—*B. pudibunda Faun. Ingr* 671.—*Ent. Par.* 262. 15.—*Müll. Zool. Dan.* 1367.—*Scop. Carn.* 489.—*Donov. Br. Ins.* 160. *Fem.*—*Harris Aur. fig.* 2. *majores.*—*Wilk. pl.* 63.—*Berk. Syn.* 1. 137. 21.—*Esper Schmet.* 3. *t.* 54.—*Allin's Ins.* 26. 38.—*Schæf. Icon.* 44. 9. 10. *Fem. et* 90. 1. 2. *Mas.* 3. *Fem. et* 219. 1. 2.—*Roes. Ins. cl.* 2. 38.—*Sepp. Ins. v.* 2. *t.* 18. *Larva.* 17. *Imago.*—*Raj. Ins.* 185. 7.—*Goed. Ins.* 3. *pl.* 5.—*List. Goed. f.* 81.—*Admiral Ins. pl.* 18.—*Phalæna porrecta alba De Geer Gen. Ins.* 38. 56.

HABITAT *Larva* in variis Arboribus polyphaga, m. Sept. *Imago* i. Jun. Sylvis.

EXPANSIO alarum M. 1 unc. 11 lin. F. 2 unc. 4. lin.

DESCRIPTIO.

DESCRIPTIO. *Larvâ* fasciculata pilosa flava capite luteo, cauda fasciculo longiori rubra, dorso quatuor albis. *Fab.*

PUPPA folliculata antice nigra, postice brunnea flavo-maculata. *Fab.*

IMAGO. Maris Antennæ ferrugineæ, rachi alba. Thorax cinerascens. Abdomen albicans. *Alæ primores* antice albidæ postice cinereæ, fasciis tribus transversis fuscis, prima prope basin, secunda media latior; inter 2 et 3 stigma fuscum; tertia fascia pone medium et quandoque sesquialtera postica, et maculis tribus confluentibus.

fascelinus. 31. B. C. (The dark Tussock) Alis cinereis fasciis duabus punctisque 2 scutelli-flavicantibus.

B. fascelina Linn. Faun. Suec. 1119.—*Linn. Syst. Nat. tom.* 2. *p.* 825. 55.—*Gmel. Syst. Nat.* 2448.—*Turt. Syst. Nat. p.* 208.—*Fab. Ent. Syst.* 3. 439. 98.—*Fab. Syst. Ent.* 2. 571. 51.—*Fab. Mant. Ins.* 2. 117. 89.—*Fab. Spec. Ins.* 2. 184. 69.—*Villars Ent.* 2. 161. 87.—*B. Medicaginis Hüb. Schmet. pl.* 21. 81. *Fem.*—*B. fascelina Bork. Syn.* 1. 137. 22.—*Wilks, pl.* 6?.—*Müll. Zool. Dan.* 1368.—*Fauv. Ingr.* 672.—*Esper Schmet.* 3. *t.* 55.—*Albin's Ins.* 26.—*Roesel. Ins. cl.* 2. 37.—*Raj. Ins.* 186. 8.—*Goed. Ins.* 1. *pl.* 36.—*List. Goed.* 80.—*Phalæna porrecta cana De Geer Gen. Ins.* 38. 57.

HABITAT *Larva* in Quercu f. Mai. *Imago* m. Jul. infrequens prope Londinum.—Frequentior prope Bedfordiam C. Abbott, D. D.

EXPANSIO alarum M. 1 unc. 10 lin. F. 2 unc.

DESCRIPTIO. *Larvâ* pilosa fasciculata rubro punctata, fasciculis 5 dorsalibus albis, capitis antique fuscis. *Fab.*

PUPPA folliculata brunnea, linea dorsali pallida. *Fab.*

IMAGO. Maris Antennæ et Thorax fusci. *Alæ anticæ* murinæ tinctura grisea, litura obscura baseos atra extus fulva, striga ante medium antrorsum arcuata fusco-fulva, alteraque undata pone medium itidem fusco-fulva, et pone hanc maculæ transversæ obsoletæ fuscæ; linea marginali aliquo fusco punctillata, ciliis murinis. Alæ posticæ fuscescentes fascia obscura postica saturatiore. Femina pallidior seu albicans atomis atris fulvisque, strigis fulvis atro atomosis, nec fusco-fulvis ut in mare, et absque maculis posticis. *Alæ posticæ fere* immaculatæ.

Corylus. 32. B. C. (The Nut-tree Tussock) Alis anticis brunneis annulo liturisque atris, postice cinereis, striga obsoleta undata fusca.

B. Coryli Linn. Faun. Suec. 1123.—*Linn. Syst. Nat. tom.* 2. 823. 56.—*Gmel.*

—*Gmel. Syst. Nat.* 2425.—*Turt. Syst. Nat. p.* 201.—*Fab. Ent. Syst.* 3. 444. 114.—*Fab. Syst. Ent.* 2. 573. 56.—*Fab. Mant. Ins.* 2. 117. 103.—*Fab. Spec. Ins.* 2. 187. 79.—*Villars Ent.* 2. 148. 50.—*De Geer Gen. Ins.* 39. 58.—*Donov. Br. Ins.* 309.—*Sepp. Ins. v.* 1. 3. *t.* 17.—*Wilks, pl.* 66.—*Berk. Syn.* 1. 136. 20.—*Albin's Ins.* 90. *b. g.*

Habitat infrequens *Larva* in Corylo m. Mai. m. Sept. *Imago* i. Ap. m. Jul. Peridumetis.

Expansio alarum 1 unc. 4 lin.

Descriptio. *Larva* fascicularis pilosa rubra fasciculis dorsalibus duobus, cauda unico, collaribus longioribus. *Fab.*

Puppa folliculata antice nigra, postice brunnea. *Fab.*

Imago. Maris Antennæ pectinatæ ferrugineæ. Thorax griseo fuscoque varius. *Alæ anticæ* macula basi cinerea tinctura grisea, tunc quasi strigæ duæ interruptæ, secunda pone medium; inter has color brunneo-ferrugineus, annulo liturisque parvis atris; postica pars alæ cinerea seu murina est, striga undata obsoleta fusca, extus lutescens, ciliis fuscis subinde albo-punctulatis. Feminæ Antennæ omnino setaceæ strigis obscurioribus.

B. C. (The Kitten) Alis canis fascia media cinerea strigis fuscis terminata; punctisque nigris. *furculus.* 33.

B. furcula Linn. Faun. Suec. 1122.—*Linn. Syst. Nat. tom.* 2. *p.* 823. 51.—*Turt. Syst. Nat. p.* 226.—*Gmel. Syst. Nat.* 2426.—*Fab. Ent. Syst.* 3. 476. 213.—*Fab. Mant. Ins.* 2. 130. 186.—*Fab. Spec. Ins.* 2. 201. 133.—*Villars Ent.* 2. 149. 51.—*Hübner Schmet. pl.* 9. 39.—*Donov. Br. Ins.* 272. *Mas.*—*Wilks, pl.* 29. *fig.* 2.—*B. furcula Panz. Faun. Germ.*.....—*Esper Schmet.* 3. *t.* 19. *f.* 6. 7.—*Smith's Georg. Ins. t.* 71.—*Phalæna diura minor De Geer Gen. Ins.* 38. 54.

Habitat *Larva* m. Sept. *Imago* f. Jul. Septis, infrequens.

Expansio alarum M. 1 unc. 8 lin. F. 1 unc. 10 lin.

Descriptio. *Larva* solitaria nuda, bicaudata, viridis. *Fab.*

Puppa folliculata brunnea. *Fab.*

Imago. *Maris* Antennæ valde pectinatæ nigræ. *Thorax* antice cinereus, fascia transversa atra; postice fuscus. *Alæ anticæ* basi griseo-canæ punctis numerosis transversis atris: tunc strigæ duæ atræ, fulvo-innatæ, et inter has color cinereus; tunc spatium canum in quo puncta duo atra, unum costale, alterum in loco stigmatis postici: tandem fascia obscura fuliginosa obliqua: pone hanc postica pars alæ cana seu albida est; denique ordine punctorum fuscorum marginali ciliisque albidis. *Alæ posticæ* albidæ, venis fuscis, macula media,

media, ordineque punctorum marginali atris. *Feminæ* colores subinde saturatiores, Antennæ crassæ subsetaceæ.

Dodonæus. 34. B. C. (The marbled Brown) Alis albidis, antice, fasciaque fracta pone medium cinereo-fuscis.

B. Dodonæa Hübner Schmet. pl. 3. f. 8.?—Phalæna trimaculæ Donov. Br. Ins. 352. 2.

HABITAT rarissime *Larva* in Quercu. *Puppa* sub Terra. *Imago* m. Jun. Querceti.

EXPANSIO alarum M. 1 unc. 5 lin.

DESCRIPTIO. Exemplar solitarium maris tantum vidi. Antennæ pectinatæ griseæ. Thorax antice griseus, postice albo fuscoque varius. Abdomen griseum. *Alæ anticæ* basi griseo-cinereæ fusco variegatæ: tunc usque ad apicem albidæ venis nigricantibus, fasciâ posticâ fractâ fusco-cinereâ strigâ marginali fuscâ, ciliis albis fuscisque. *Alæ posticæ* cinerascentes.

Roboreus. 35. * † B. C. (The lunar marbled Brown) Alis deflexis cinereis, strigis duabus undatis albis, macula centrali nivea lunula nigra.

Noctua Roboris Fab. Ent. Syst. 3. 35. 90.—Phalæna Roboris Donov. Br. Ins. 299.—B. Chaonia Hübner Schmet. pl. 3. f. 10. 11.?

HABITAT valde infrequens *Larva* in Betula, Corylo, m. Sept. *Imago* Sylvis Jun.

EXPANSIO alarum 1 unc. 6 lin.

DESCRIPTIO. *Alæ anticæ* cinereo-fuscæ fascia lata media alba in qua lunula fusca. *Alæ posticæ* cinerascentes.

Querneus. 36. B. C. (The dark marbled Brown) Alis fuscis fascia angulata pone medium obliqua albida, in qua striga cinerascens.

B. Querna Hüb. Schmet. pl. 3. f. 9.?

HABITAT rarissime *Larva* in Quercu; *Imago* Jun. Quercetis.

EXPANSIO alarum F. 1 unc. 7 lin.

DESCRIPTIO. Exemplar solitarium Feminæ tantum vidi. Antennæ setaceæ; ciliis alarum superiorum albidis fuscisque. Thorax et *alæ posticæ* ut in duabus præcedentibus.

OBS. The last three species (if such they really are) have so many characters in common, and resemble each other so much, as to make it difficult to understand them. The figures above cited in Donovan and Hübner neither agree well with each other, nor any of them precisely with my specimens. Of *Roboreus* I have no specimen.

B. C. (The

B. C. (The Oak Eggar) Alis rotundatis cinereis strigis duabus punctoque medio fuscis, ano barbato. *Cratægus.* 37.

B. Cratægi Linn. Syst. Nat. tom. 2. p. 823. 48.—Gmel. Syst. Nat. 2424.—Turt. Syst. Nat. p. 218.—Fab. Ent. Syst. 3. 460. 166.—Fab. Mant. Ins. 2. 126. 150.—Fab. Spec. Ins. 2. 194. 104.—Villars Ent. 2. 147. 48.—Donov. Br. Ins. 117. fig. sup. Fem. fig. inf. Mas.—Albin's Ins. 34. 54.? et 88. b. i. —Hüb. Schmet. pl. 36. 162. Mas.—Sepp. Ins. v. 3. t. 33.—Esper Schmet. 3. t. 45. f. 3. 4.—Phalæna albicaudata De Geer Gen. Ins. 36. 44.

Habitat *Larva* m. Mai. in Cratægo. *Imago* i. Sept. Sylvaticis, rarius prope Londinum.—Frequentior prope Bedfordiam, C. Abbott, D. D.

Expansio alarum M. 1 unc. 2 lin. F. 1 unc. 5 lin.

Descriptio. *Larva* pilosa nigra, fasciis albis tuberculisque quatuor ferrugineis. *Imago* Maris, Antennæ pectinatæ fuscæ. Thorax cinereo-griseus. Anus pilis longis instructus. *Alæ anticæ* cinereæ, striga ante mediam introrsum arcuata fusca, alteraque pone mediam dentata atra, inter has punctum obsoletum colore saturatiore seu fuscescente. Postica pars alæ cinerea est, striga punctulorum fuscorum marginali. *Alæ posticæ* marinæ seu fuscescentes. *Feminæ* a mare valde discrepat; *alæ omnes* fuscæ, *primores* strigis duabus posticis undatis albidis valde obsoletis; *posticæ* immaculatæ.

Obs. In alis anticis feminæ, subinde strigis obscuris albicantibus tribus; altera antica, duabus posticis.

B. C. (The pale Oak Eggar) Alis rotundatis canescentibus, strigis duabus fuscescentibus, exteriore dentata, alteraque postica albida. *pallidus.* 38. *

Schæf. Icon. 133. 3. 4. Fem. †

Habitat in Anglia rarissima. In Musæo amici mei D. Francillon.

Obs. Simillima maris præcedentis magnitudine et statura, et facile eadem; sed antennæ setaceæ nec pectinatæ. *Alæ anticæ* inter strigas primores saturatiores. *Alæ posticæ* canescentes striga unica media fuscescente. *Mas* hujus speciei vel *forte varietas* nunquam vidi.

B. C. (The figure of 8) Alis cinereo-griseis stigmatibus albidis coadunatis inter strigas duas fuscas, fasciaque marginali cinerea. *cæruleocephalus.* 39.

B. cæruleocephala Linn. Faun. Suec. 1117.—Linn. Syst. Nat. tom. 2. p. 826. 59.—Gmel. Syst. Nat. 2429.—Turt. Syst. Nat. p. 208.

p. 208.—*Fab. Ent. Syst.* 3. 440. 102.—*Fab. Syst. Ent.* 2. 572. 53.—*Fab. Mant. Ins.* 2. 117. 93.—*Fab. Spec. Ins.* 2. 185. 72.—*Müll. Zool. Dan.* 1370.—*Donov. Br. Ins. pl.* 100.—*Wilks, pl.* 12.—*Berk. Syn.* 1. 137. 25.—*Villars Ent.* 2. 165. 91.—*Albin's Ins.* 13. 17.—*Ent. Paris.* 265. 27.—*Raj. Ins.* 163. 36.—*Roet. Ins. cl.* 2. 16.—*Sepp. Ins. v.* 1. 3. *t.* 13.—*Esper Schmet.* 3. *t.* 5. *f.* 1-4.—*Goed. Ins.* 1. 61.—*List. Goed.* 47.

Habitat *Larva* m. Mai. in Pyro et Cratægo. *Imago* m. Aug. Dumetis, vix frequens.

Expansio alarum M. 1 unc. 5 lin. F. 1 unc. 6 lin.

Descriptio. *Larva* nuda cœrulescens lutea lineata nigro punctata. *Fab.*

Puppa folliculata brunnea. *Fab.*

Imago. Antennæ ferrugineæ. Thorax subcristatus antice griseus postice cinereus. Abdomen subgriseum. *Mas* præcedente paulo major. *Alæ* magis oblongæ: *primores* griseascentes, basi lineola deorsum spectante, alteraque ad angulum posticum atris: striga antica undata extrorsum spectans, alteraque obliqua itidem undata pone medium extrorsum paulo spectans, extus albido innata; inter has strigas stigmata duo reniformia coadunata, quasi macula majuscula duplicata albida, quæ ad marginem crassiorem fere attingit: tunc fascia marginali cinerea; tandem linea marginali fusca, ciliisque griseis fusco punctatis. Margo tenuior sæpe atrescit. *Alæ posticæ* albicantes, puncto venisque fuscis. Ad angulum ani macula atra.

Femina paulo saturatior antennis setaceis.

Cassinius. 40. B. C. (The Sprawler) Alis cinereo-griseis lineolis sparsis atris, margine postico posticarum fusco punctato.

B. Cassinia Fab. Ent. Syst. 3. 460. 164.—*Fab. Mant. Ins.* 2. 126. 148.—*Gmel. Syst. Nat.* 2423.—*Villars Ent.* 2. 157. 74.—*Hüb. Schmet. pl.* 2. 516.

Habitat rarissima *Larva* in Quercu, m. Mai. *Imago* m. Sept. Quercetis.

Expansio alarum 1 unc. 9 lin.

Descriptio. *Imago* præcedentibus major. Antennæ griseæ. Caput albidum, vertice atro. Thorax cinereus antice et dorso fusco, lateribusque macula itidem fusca. *Alæ anticæ* cinereæ lineola baseos alteraque in margine tenuiore nigris, præterea lineolis sparsis minoribus versus marginem posticum, strigaque pallida obsoletissima fracta, subinde oblitterata. *Alæ posticæ* cinerascentes venis punctisque fuscis, linea marginali atro punctata; ciliis cinerascentibus aliquo albido punctatis.

**** ALBI

****** ALBI** (*Whites*). *Alis albis vel albidis sæpius nigro punctatis, rarius maculatis.* (*Mas mendici fuscescit. Mas lubricipedati lutescit.*)

† ARBOREI (*Tree-eaters*). *Larvis birtis arboricoribus. Alis rarius nigro maculatis.*

B. A. (The black V.) fulvus, alis niveis v nigro parvo in medio, venis lutescentibus. *V. nigrus.* 41. * †

B. v. nigrum Fab. Ent. Syst. 2. 458. 159.—*Fab. Sp. Ins.* 192. 101.—*Fab. Mant. Ins.* 2. 125. 143.

HABITAT rarissime apud nos *Larva* in Tilia. *Imago* m. Aug. Tiliaceis.

EXPANSIO alarum 2 unc. 1 lin.

DESCRIPTIO. *Larva* fasciculata, fasciculis dorsalibus octo, anticis posticisque albis, collari hirsutissimo. *Fab.*

PUPPA viridis: macula thoracis nigra. *Fab.*

IMAGO. Statura B. Salicis sed paulo major, antennis, thorace, abdomine, venisque alarum fulvis. Oculi nigri. Basis literæ V versus basin alarum superiorum spectat.

OBS. This rare species must not be confounded with *Bombyx nivosa of Hübner's Schmet. pl.* 18. *f.* 71, which differs specifically from our V. *nigrus* in having antennæ with a white rachis, and black radii, and a white head, thorax, and abdomen. All these parts, in our English species, are of a deep tawny or fulvous colour. The eyes and letter V alone are black. Owing to the great difficulty of distinguishing these two insects from each other, by the imperfect descriptions given them by Villars and others, I have not at present ventured to apply any synonyma but those of Fabricius.

B. A. (The Satin) Albus, radiis antennarum nigris, pedibusque atro annulatis. *salicinus.* 42.

B. Salicis Linn. Faun. Suec. 1129.—*Linn. Syst. Nat. tom.* 2. *p.* 822. 46.—*Gmel. Syst. Nat.* 2423.—*Turt. Syst. Nat. p.* 218.—*Fab. Ent. Syst.* 3. 4. 59.—*Fab. Syst. Ent.* 2. 578. 75.—*Fab. Mant. Ins.* 2. 126. 147.—*Fab. Spec. Ins.* 2. 193. 103.—*Villars Ent.* 2. 146. 46.—*Hüb. Schmet. pl.* 18. 70.—*Donov. Br. Ins.* 80. *Mas.*—*Ent. Pur.* 263. 19.—*Wilks, pl.* 44.—*Müll. Zool. Dan.* 1364.—*Harris Aur. t.* 5. *figuræ* 2 *albæ.*—*Faun. Ingr.* 681.—*Esper Schmet.* 3. *t.* 41.—*Altin's Ins.* 84. *c. d.*—*Berk. Syn.* 1. 136. 19.—*Roes. Ins. cl.* 2. 9.—*Sepp. Ins. v.* 2. *t.* 4.—*Seba Thes.* 4. 52. B.—*Goed. Ins.* 1. 3.—*Lister's Goed.* 87.—*Phalæna apparens De Geer Gen. Ins.* 37. 46.

HABITAT

Habitat *Larva* in Salice, Populo, Junio. *Imago*, Julio Salicetis. Vulgaris.

Expansio alarum M. 1 unc. 10 lin. F. 2 unc.

Descriptio. *Larva* pilosa nigra, dorso longitudinaliter albo maculata, rubraque punctata. *Fab.*

Puppa folliculata pilosa brunnea. *Fab.*

Imago. *Maris Thorax* postice albido-flavescens. *Abdomen* nigrum pilis albis tectum. *Alæ omnes* lucidæ nudiusculæ albidæ et levigatæ. *Femina* major. *Antennæ* rachi albo, radiis nigris in duplici serie ut in mare, at multoties brevioribus. *Abdomen* nigrum pilis brevioribus et paucioribus et magis albis quam in mare.

chrysorrhœus. 43. B. A. (The yellow Tail) Niveus, radiis antennarum anoque barbato luteo-fulvis.

B. chrysorrhœa Linn. Faun. Suec. 1128.—*Linn. Syst. Nat. tom.* 2. 822. 45.—*Gmel. Syst. Nat.* 2422.—*Fab. Ent. Syst.* 3. 458. 160.—*Fab. Syst. Ent.* 2. 577. 74.—*Fab. Mant. Ins.* 2. 125. 144.—*Villars Ent.* 2. 145. 45.—*B. auriflua Hüb. Schmet. pl.* 18. 69.—*Donov. Br. Ins.* 10. *Femina.*—*Scop. Carn.* 493.—*Müll. Zool. Dan.* 1363.—*Berk. Syn.* 1. 136. 18.—*Schæf. Icon.* 131. 1. 2.—*Goed. Ins.* 1. 13.—*List. Goed.* 90.

Habitat frequens *Larva* Junio, Cratægo. *Imago* f. Jul. Sepibus.

Expansio alarum F. 1 unc. 10 lin.

Descriptio. Larva gregaria pilosa nigricans, lineis duabus dorsalibus rubris, lateribus albo fasciculatis. *Fab.*

Puppa folliculata nigricans. *Ova* lana copiosa fulva tecta. *Fab.*

Imago. *Femina* supra et subtus tota nivea, radiis antennarum lutescentibus seu griseis, anoque luteo-fulvo valde barbato, exceptis.

Obs. I never saw the Male, unless it is (as indeed I conceive it to be) the following.

auriflavus. 44. B. A. (The spotted yellow Tail) Niveus, alis anticis subtus costa late fusca, radiis antennarum anoque barbato luteis.

B. auriflua Fab. Ent. Syst. 3. 458. 161.—*Fab. Mant. Ins.* 2. 123. 145.—*Villars Ent.* 2. 153. 45. *et* 4. 444. 59.—*Gmel. Syst. Nat.* 2423.—*Albin's Ins.* 87. *g. b.*—*Schæf. Icon.* 139. 1. 2.

Habitat cum præcedente, a qua forte solo sexu differt.

Expansio alarum M. 1 unc. 7 lin.

α. Descriptio. Alæ supra toto niveæ.

β. Alæ

β. Alæ niveæ macula una alterave fuscæ.
Hüb. Schmet. pl. 18. 68.

Summa affinitas præcedentis, differt tantum, costa alæ anticæ subtus nigra, puncta interdum sparsa nigra in pagina superiorum alarum. *Fab.* l. c. *et Villars*, l. c.

Obs. The Female of this I have never seen, unless it is (as I strongly suspect it to be) *chrysorrhœus*. I should have joined them as Male and Female of the same species, had not *Fab.* and *Villars* both described them as distinct. The latter adds that the *Larvæ are also distinct*. Perhaps he has confounded their *Larva* with that of *phæorrhœus*, whose difference, as a species, from *chrysorrhœus* and *auriflaus*, rests upon *nearly the whole of its abdomen being real brown, not yellow* or *fulvous, and that at the apex only*. It is also rather smaller, and has white, not niveous wings, and a different *Larva*.

B. A. (The brown Tail) Alis albis radiis antennarum ferrugineis, abdomine barbato fusco. *phæorrhœus.* 45.

Curtis's Obs. on the Brown Tail Moth, cum fig.—Albin's Ins. 87. *c. d.—B. chrysorrhœa Hüb. Schmet.* 18. 67.—*B. Præiata Scop. Carn.* 694.

Habitat vulgaris *Larva* Junio Cratægo. *Imago* i. Aug. Sepibus.

Expansio alarum 1 unc. 6 lin.

Descriptio. Simillima præcedentibus, sed vero differt in Larva et Imagine. Paulo minor. Antennæ magis pectinatæ magisque ferrugineæ. *Abdomen* postice (nec solo apice) fuscum, nullo modo luteum vel luteo-fulvum ut in præcedentibus, apice valde lanatum ut in illis, basi et lateribus in Femina canescentibus. *Alæ* albæ, (nec albissimæ seu niveæ ut in præcedentibus) costa in mare, *subtus* late fusca seu fuliginosa, unde summa affinitas præcedentis.

β. Alis macula una alterave fusca.

Obs. The *Larvæ* of this insect have sometimes become so exceeding numerous as to do incredible damage to the vegetable kingdom; so much so as to "cause so serious an alarm "to the inhabitants of London and its environs, as happened "in the year 1782, when the churchwardens and overseers "of the neighbouring villages, after ordering rewards for "collecting these Caterpillars, attended to see them burnt by "bushels. Surely much praise was due to the author of "that curious and well-timed Essay on the Brown-Tail "Moth, in which, by a faithful and circumstantial history of "the little innocent animal, he restored tranquillity to a terri-"fied multitude." Vide Marsham in vol. 1. p. 68. Linn. Tr.

This

This Essay I possess, but have mislaid, and do not recollect that Mr. Curtis (the author of it) assigns any reason for so unusual an increase of this Moth, which was most probably owing to several coincidences, such as favourable weather, and some previous failure of either its feathered devourers, or its Ichneumon enemies; or perhaps all three causes acting in combination. Vide my Obs. on *Vinulus* and *Lanestrus*.

compressus. 46. B. A. (The Chinese Character) Alis niveis fascia abbreviata olivaceo-fusca, in qua litera tenuissima argentea.

B. compressa Turt. Syst. Nat. p. 216.—*Fab. Ent. Syst.* 3. 455. 149.—*Fab. Mant. Ins.* 2. 124. 137.—*Fab. Sp. Ins.* 2. 191. 97.—*Panz. Faun. Germ.* . . . .—*B. spinula Hüb. Schmet. pl.* 11. 40.?—*B. compressa Donov. Br. Ins.* 239. *f.* 2.—*Alvin's Ins.* 65. *b. g.*

Habitat *Imago* f. Mai. i. Aug. frequens Sepibus.

Expansio alarum M. 11 lin. F. 1 unc. 1 lin.

Descriptio. *Larva* fusca antice spinis quatuor, postice duabus, cauda acuminata. *Fab.*

Puppa antice brunnea, postice cœrulea. *Fab.*

Imago. Corpus tenue. *Alæ* sedentis compresso-adscendentes niveæ. *Anticæ* paulo ante medium macula ovata subolivacea in qua venæ argentescentes litera tenuissima et composita constituunt: huic maculæ ovali juncta est macula altera olivaceo-fusca quæ marginem tenuiorem attingit: pone maculas nebula strigiformis plumbescens, et pone hanc ordo transversa lunularum plumbarum quæ subinde fere duplicata est, ad marginem posticum: ciliis fuscescentibus. *Alæ posticæ* albicantes margine postico fuscescente ciliis pallidioribus.

Obs. 2. This species, nearly the smallest of the genus, is extremely different from any of the preceding; nor is it at all closely allied to any other species we possess in Britain. In artificial characters it agrees with this section: but in natural ones, particularly in its *Lacertine Larva*, it approaches nearest to my *Falcated Pyralides*.

†† Terrestres (*Herb-eaters*). *Larvis hirsutissimis herbivoribus. Alis semper nigro punctatis.*

lubricipedatus. 47. B. A. (The spotted Buff) Alis flavicantibus striga obliqua fracta punctorum atrorum, thorace anoque luteis.

B. lubricipeda Linn. Faun. Suec. 1138. *Mas.*—*Fab. Ent. Syst.* 3. 451. 138.—*B. lubricipeda* β. *Gmel. Syst. Nat.* 2434.—*Turt. Syst.*

Syst. Nat. p. 214.—*B. lubricipeda Fab. Syst. Ent.* 576. 68.—*Fab. Mant. Ins.* 2. 125. 128.—*Fab. Spec. Ins.* 190. 93.—*Villars Ent.* 2. 177. *sequente confunditur.*—*Marsh. in Linn. Tr.* 1. 71. *cum fig.*—*Faun. Ingr.* 678.—*Müll. Zool. Dan. sequente confunditur.*—*Berk. Syn.* 1. 138. 28.—*Admiral's Ins. t.* 6. *Fem.*—*Albin's Ins.* 24. *f.* 35.—*Harris Aur. t.* 17. *l. Mas. k. Fem.*—*Wilks, pl.* 41.—*Barbut's Gen. Ins. pl.* 10. *f.* 69. *Mas.*—*Raj. Ins.* 196. 42.—*Merian Eruc. pars* 1. *pl.* 46.—*Roes. Ins. cl.* 2. 47.—*Esper Schmet.* 3. *t.* 66. *f.* 5.—*Goed. Ins.* 1. 23.—*List. Goed.* 93.—*Phalæna Lepus De Geer Gen. Ins.* 37. 47.

Habitat *Larva* in Plantis herbaceis Aug. *Imago* Junio Hortis frequens.

Expansio alarum M. 1 unc. 8 lin. F. 1 unc. 9 lin.

Descriptio. *Larva* pilosa fuscescente linea laterali albida.

Puppa folliculata subterranea.

Imago. Maris Antennæ nigræ. Caput, Thorax et anus flavi. *Alæ anticæ* striga obliqua pone medium interrupta ex punctis atris, præterea punctis circiter 4 ante strigam, 2 costalibus et 2 seu 3 subtus costam: et 3-5 vel pluribus contiguis pone strigam. Alæ posticæ paulo pallidiores at fere immaculatæ. *Femina* semper pallidior et subinde albicans.

Obs Abdomen ut in sequente sed ano flavo nec niveo.

β. Punctis multo majoribus et numerosioribus.

B. A. (The large Ermine) Alis albidis punctis numerosis sparsis, lineolisque posticis atris. *Ermineus.* 48.

B. Menthrastri Fab. Ent. Syst. 3. 452. 140.—*Donov. Br. Ins.* 189.—*B. lubricipeda Fem. Linn. Faun. Suec.* 1138.—*B. lubricipeda α. Gmel. Syst. Nat.* 2434.—*B. lubricipeda Scop. Carn.* 513.—*B. erminea Marsh. in Linn. Tr.* 1. 70. *cum fig.*—*Roesel. cl.* 2. 46.—*Sepp. Ins. v.* 2. *t.* 2.—*Wilks, pl.* 40.—*Albin.* 24. 36.—*Harris Aur. t.* 38. *l. k.*—*Merian Eruc. pars* 2. *pl.* 15. *fig. dext.*—*Schæf. Icon.* 24. 8. 9. *Fem. et* 203. 2.—*Esper Schmet.* 3. *t.* 66. *f.* 6.—*Raj. Ins.* 195. 40.—*Goed. Ins* 1. 38.—*List. Goed.* 96.

Habitat *Larva* Aug. *Imago* i. Mai. Hortis rarius.

Expansio alarum M. 1 unc. 9 lin. F. 1 unc. 11 lin.

Descriptio. *Larva* pilosa fusca linea laterali rubra.

Puppa folliculata subterranea.

Imago. *Maris* Antennæ atræ. Caput et Thorax albi. Abdomen luteum apice niveo, 5-serie atro punctatum, ordinibus 2 utraque lateralibus, et 1 dorsali. *Alæ inferiores* albæ nec albidæ puncto uno alterove atro. Femina simillima, antennis setaceis.

β. Punctis multo majoribus.

papyratius. 49. B. A. (The Water Ermine) Alis albis, punctis præcipue ad apicem atris, thorace anoque niveis.

B. papyratia Marsh. in Linn. Tr. 1. 72. *cum fig.—Turt. Syst. Nat. p.* 214.—*Albin's Ins.* 21. *f.* 30. *e. b.—Schæf. Icon.* 94. 2. 3. *Fem.*

Habitat *Larva* in Plantis aquaticis. *Imago* m. Jun. Paludosis valde infrequens.

Expansio alarum 1 unc. 7 lin.

Descriptio. Præcedenti minor et magis albus seu charticoloria. *Maris* antennæ minus pectinatæ quam in præcedentibus, rachi atra radiis albis. Caput, Thorax, et apex Abdominis seu anus albi, Abdomen ut in *Ermineo*, sed magis aurantium. *Alæ anticæ* albæ punctis circiter 4 pone medium, punctisque linearibus confertis circiter 10 ad apicem, in striga fere dispositis. *Posticæ* niveæ immaculatæ. Femina, Antennis setaceis: punctis paucioribus.

Obs. *Larva* fusca pilosa.

Puppa atra stigmatibus pallidis.

β. Alis fere impunctatis.

mendicus. 50. B. A. (The spotted Muslin) Alis masculinis fuscis, femineis albis, utroque atro punctatis, abdomine (mare fusco) (femina albo) atro punctata.

B. mendica Linn. Faun. Suec. 1127. *Mas.—Linn. Syst. Nat. tom.* 2. *p.* 822. 47.—*Gmel. Syst. Nat.* 2423.—*Turt. Syst. Nat. p.* 214.—*Fab. Ent. Syst.* 3. 452. 139.—*Fab. Mant. Ins.* 2. 123. 129. *excluso var.* β.—*Fab. Spec. Ins.* 2.—*Villars Ent. Syst.* 2. 146. 47.—*Marsh. in Linn. Tr.* 1. 72. *cum fig.—B. mendica Panz. Faun. Germ.....—Hüb. Schmet. pl.* 34. 148. 9.—*Raj. Ins.* 197. 6. *Fem.—Müll. Faun. Siles. M. et F.—Pet. Gaz.* 44. *f.* 8. *Fem.—Harris Aur. t.* 35. *m. Fem.—Esper Schmet.* 3. *t.* 42. *f.* 1. 2.

Habitat *Larva* in Plantis aquaticis. *Imago* m. Mai. Paludosis valde infrequens.

Expansio alarum M. 1 unc. 4 lin. F. 1 unc. 5 lin.

Descriptio. *Larva* cinerea hirta.

Puppa folliculata brunnea.

Imago. *Mas.* Antennæ magis pectinatæ quam in præcedente, rachi radiisque nigris. Thorax et Abdomen cinereo-fusci. *Alæ omnes* fuscæ, *primores* punctis anticis sparsis atris circites sex, *secundariæ* 3 aut 6 distantibus itidem atris ad marginem posticum. *Femina* a mare toto cœlo discrepat. Antennæ setaceæ. Caput et Thorax nivei. Abdomen pulverulente niveum 5-farie atro punctatum ut in præcedente. *Alæ omnes* nudiusculæ et obsolete pellucidæ albæ, *primores* punctis

punctis anticis 3-6 sparsis; secundariæ 1 3 ad marginem posticum distantibus atris.

β. Femina. *Alæ anticæ* punctis atris 10-12 sparsis ciliis albis atrisque: *posticæ* maculis 7-9 atris 1-2 in medio obscurioribus: 6-7 quasi striga ad marginem posticum, ciliis immaculatis.

Bombyx rustica Hüb. Schmet. pl. 34. 150.?

OBS. Abdomen magis niveus quam in α.

OBS. 2. Femora in 4 præcedentibus speciebus lutea seu fulva.

OBS. 3. The Female of Mendicus differs so very much from the Male, that if we were not well acquainted with all her phases, she would pass as a species unquestionably distinct from him. A greater sexual dissimilarity in this department of the science, I am not acquainted with, the Apterous Females alone excepted, of which, in Britain, we possess 12 species; 2 terminated in *us*, 9 in *aria*, and one in *ella*.

***** TRISTIGMATIFERI (*Darts.*) *Alis sæpius grisescentibus strigis duabus g minatis, et inter has stigmatibus 2 ordinariis, præterea tertia teliformi striga antica enata. Puppa subterranea.*

† GEMINATI (*Twin-striped*). *Alis griseis vel rarius fuscis, strigis geminatis vel moniliformibus.*

OBS. The Insects of this, and the next section approach the *Noctuæ* nearer than any others. In this, the *Antennæ* are strongly pectinated, which has occasioned me to remove *chrysostigmatus* of the Prodromus (the radii of whose antennæ are scarcely visible to the naked eye), to a new section of the *Noctuæ*, which I shall call *Pseudo-bombyces*, the Male Antennæ of which, although not pectinated to the naked eye, (or extremely slightly so) exhibit considerable radii when magnified. The *Larvæ* in both these sections are for the most part subterraneous, doing incredible damage to the roots of plants in gardens, &c. The gardeners call them *botts*. That of *Gramineus* is said to be the worst of all in Sweden. (*Linn. Faun.* 1140.) In this country its destructive properties are fortunately of very little moment, on account of its rare occurrence. *Vide Obs. on Gramineus.* The best mode of destroying these *Larvæ*, is either to admit poultry to hunt them; or to trench the ground deep in autumn or spring, or both.

spiniferus. 51. B. T. (The small Sword Grass) Alis griseis fusco nebulosis, stigmate inferiori spinula armata.
B. spinifera Vill. Ent. 2. 174. 110.
HABITAT Imago Ripis f. Jun. valde infrequens.
EXPANSIO alarum 1 unc. 9 lin.
DESCRIPTIO. *Alæ* griseæ fusco paulo nebulosæ, striga geminata antica obsoletissima, quæ stigma teliforme gerit ut in cæteris hujus sectionis, alteraque pone stigma posticum itidem geminata seu submoniliformis ut in affinibus. Ad marginem posticum lineolæ 2, seu 3 acutæ, maculaque una alterave trigoniæ atræ. *Alæ posticæ* albidæ tinctura purpurascente, venis lineaque marginali fuscis.

clavigerus. 52. B. T. (The Heart and Club) Thoracе albo griseoque, alis griseo-pallidis, stigmatibus intus griseis extus atris, alis posticis cinereis.
Prod. Lep. Brit. p. 9. *no.* 53.—*Mus. Aurel. no.* 69.
HABITAT *Imago* f. Jun. Ripis rarissime.
EXPANSIO alarum 1 unc. 7 lin.
DESCRIPTIO. Antennæ ferrugineæ, stigma anticum griseum atro late cinctum: stigma reniforme ad strigam posticam attingens. Thorax fuscescens. *Alæ posticæ* cinerascentes lunula media, venisque saturatioribus.
β. Stigmate antico subocellari, seu annulari, puncto atro pro pupilla.

subfuscus. 53. B. T. (The brown Heart and Club) Thorace cinereo-atroque vario, alis fusco-griseis, stigmatibus ordinariis atris, alis posticis fuscis.
Mus. Aurel. no. 70.
HABITAT rarissime *Imago* f. Jun. Ripis.
EXPANSIO alarum 1 unc. 7 lin.
DESCRIPTIO. Præcedenti valde affinis. *Alæ anticæ* fuscæ tinctura grisea, strigis fere obliteratis, stigma teliforme seu tertium fusco griseum cincto atro. Stigma reniforme ad strigam posticam attingens ut in præcedente. *Alæ posticæ* fuscæ lunula media saturatiore.

catenatus. 54. B. T. (The brindled Heart and Club) Alis nitide griseis, stigmate reniformi ad strigam moniliformem attingente, alis posticis albis.
Mus. Aurel. no. 68.
HABITAT rarissime *Imago* m. Jun. Ripis.
EXPANSIO alarum 1 unc. 8 lin.

Descriptio. Exemplar unicum tantum vidi, *Mas.* Præcedenti affinis, sed vero differt primo intuitu, *alis posticis* albis nec fuscis. *Alæ anticæ* griseæ fusco et atro paulo nebulosæ. Ad marginem posticum striga e punctis atris confluentibus. Stigma anticum subocellare seu annulare puncto atro pro pupilla. *Alæ posticæ* albæ immaculatæ, margine solo nigricante.

B. T. (The pectipated Dart) Alis griseis, stigmate postico ad strigam pectinatam attingente, alis posticis albis. *pectinatus.* 55.

Mus. Aurel. no. 67.

Habitat rarissime *Imago* f. Jun. Ripis.

Expansio alarum 1 unc. 7 lin.

Descriptio. Exemplaria duo tantum vidi. Mas, præcedenti simillimus, differt stigmate teliformi duplo minore. Striga postica extus pectinata est nec moniliformis. Stigma anticum et *alæ posticæ* ut in præcedente.

B. T. (The Necklace Dart) Alis griseis atro pulveratis, stigmatibus ordinariis maculæformibus ad strigam moniliformem non attingentibus. *monileus.* 56.

Mus. Aurel. no. 66.

Habitat rarissime *Imago* f. Jul. Ripis.

Expansio alarum 1 unc. 7 lin.

Descriptio. Exemplaria duo tantum vidi, præcedentibus simillima sed magis atro pulverata et nebulosa, stigmatibus ordinariis atris maculæformibus, anticum nec subocellare, posticum nec ad strigam posticam attingens, quæ striga moniliformis est, nec pectinata ut in præcedente. Stigma teliforme fere obliteratum. *Alæ posticæ* ut in præcedentibus.

B. T. (The brindled Dart) Alis nitide-griseis stigmate postico ad strigam posticam non attingente. *spinulus.* 57.

Phalæna spinula Donov. Br. Ins. pl. 345.—*Noctua Segetis Hübner Schmet.* 31. 146.—*B. stigmaticus Prod. Lep. Brit. p.* 19. 50.

Habitat rarius *Imago* m. Jun. Sepibus.

Expansio alarum 1 unc. 8 lin.

Descriptio. Stigmata ordinaria medio atra circulo griseo, atro terminato. Stigma teliforme atro cinctum; ad marginem posticum striga obsoleta undata punctorum pallidiorum. *Alæ posticæ* ut in præcedente.

B. T. (The

connexus. 58. B. T. (The Chain-shot Dart) Stigmatibus junctis per lineolam duplicem. Stigmate tertio acuto, lineolam atram exerente ad marginem posticum.
Mus. Aurel. no. 62.
Habitat rarissime *Imago* Junio Hortis.
Expansio alarum 1 unc. 11 lin.
Descriptio. Exemplar unicum tantum vidi, *Mas*, præcedenti valde affinis. Alis nitide griseis sed absque strigis: ad marginem posticum fascia undata atra, quæ ad apicem vix attingat. *Alæ posticæ* albæ.

Corticcus. 59. B. T. (The pointed Dart) Alis nitide-griseis strigis obliteratis, stigmate antico tridenticulato, stigmate tertio acuto.
B. Corticea Hilb. Schmet. pl. 30. 145.
Habitat rarissime cum præcedente, eodemque tempore.
Expansio alarum 1 unc. 9 lin.
Descriptio. Præcedente in plurimis convenit sed absque lineola inter stigmata, et absque lineola ad stigma tertium. Stigma anticum extus tridenticulatum est, nec rotundum et integrum ut in præcedente. Exemplar unicum tantum vidi. Maris alæ posticæ albæ.

venosus. 60. B. T. (The broad-veined Dart) Venis dilatatis fuscis, stigmate postico ad strigam moniliformem non attingente.
Mus. Aurel. no. 63.
Habitat rarissime m. Jun. Ripis.
Expansio alarum 1 unc. 10 lin.
Descriptio. Præcedentibus affinis. Alis nitide-griseis. Stigma anticum subocellare, puncto atro pro pupilla. Stigma tertium valde exiguum. Exemplar unicum tantum vidi. Maris *alæ* posticæ albæ, margine tenue fusco.
β. Magis fusco irroratus, venis minus dilatatis.

subatratus. 61. B. T. (The dark Dart) Alis griseo-atris, stigmatibus strigisque obsoletissimis, strigaque recta postica punctorum pallidiorum.
B. subatratus Prod. Lep. Brit. 9. 51.
Habitat rarissime *Imago* m. Jun. Peridumetis.
Expansio alarum 1 unc. 9 lin.
Descriptio. Exemplaria duo tantum vidi. Præcedentibus simillima sed magis atra seu nigra et minus grisea. Striga versus marginem posticum recta, nec undulata ut in præcedentibus et sequente. *Alæ* posticæ albæ margine venisque fuliginosis.

B. T. (The

B. T. (The black Dart) Alis superioribus nigris, stigmatibus strigisque obliteratis, strigaque postica obsoletissima undulata e punctis griseis. *nigricornutus.* 62.

B. nigricornis alis superioribus omnino fuscis, antennis nigris Villars Ent. 2. 175. 114.

Habitat *Imago* Peridumetis m. Jun. valde infrequens.

Expansio alarum 1 unc. 9 lin.

Descriptio. Exemplaria duo tantum vidi. Nimis affinis B. Spinulo. Antennæ alæque anticæ nigræ, fere sine ullo alio colore: Certo situ stigmata fere obliterata, strigaque undulata nec recta ad marginem posticum e punctis griseis. *Alæ posticæ* ut in præcedente.

B. T. (The feathered Gothic) Alis fuscis venis albidis, strigis duabus geminatis, alteraque postica e punctis trigonis. *popularius.* 63.

B. Popularis Fab. Mant. Ins. 2. 133. 209.

Habitat in Anglia, D. Jones, tempore et loco indeterminatis.

Expansio alarum 1 unc. 6 lin.

Descript o. Antennæ valde pectinatæ. *Alæ anticæ* fuscæ venis albis, in media strigis duabus geminatis, inter has color saturatior et stigmata tria ut in affinibus; tunc striga postica e punctis fere sagittatis antrorsum spectantibus, striga obsoleta albida aliquo interrupta. Linea marginali nigro punctata, ciliis fuscis. *Alæ posticæ* albidæ fimbria lata fuliginosa.

†† Albinotati (*Antlers*). *Alis sæpe plus minusve albido notatis, strigis geminatis subobliteratis.*

B. T. (The Antler) Alis griseis linea trifurca alba, stigmatibus pallidis, lineolisque acutis ad apicem atris. *Gramineus.* 64.

B. Gramineus Linn. Faun. Suec. 1140.—*Linn. Syst. Nat. tom.* 2. *p.* 830. 73.—*Gmel. Syst. Nat.* 2440.—*Turt. Syst. Nat. p.* 229.—*Fab. Ent. Syst.* 3. 483. 329.—*Fab. Syst. Ent.* 2. 586. 106.—*Fab. Spec. Ins.* 2. 204. 148.—*Villars Ent.* 2. 180. 127.—*De Geer Gen Ins.* 40. 69.—*Müll. Zool. Dan.* 1376.—*Faun. Ingr.* 687.—*Esp r Schmet.* 3. *t.* 68. *f.* 1.—*Noctua tricuspis Hüb. Schmet. pl.* 30. *f.* 143.

Hab iat *Larv* in Gramine. *Imago* Sylvaticis; apud nos feliciter valde infrequens.

" Habitat in Gramine (Alopecuro intacto) pessima nostratibus " prata certis annis, nec determinatis, devastans, fœnum " omne consumens, unde pecora periclitantur, prætium " fœnum adscendit; prata inde proximis annis, florent flo-" ren tibus

" rentibus plantis; antea solo gramine tectis. Pellitur " suibus, cornicibus fossis." *Linn. Faun. Suec.* l. c.

Obs. Perhaps this apparently destructive scourge of the Swedish pastures (though happily not of our English ones) is of more use in the great œconomy of Nature than we are aware of, by preventing the almost total suffocation and consequent destruction of the above mentioned " florentibus plantis," in giving them an occasional season, in which they may recover themselves, to become the food, the *necessary food* perhaps, of many insects, &c. which would perish whenever that became extinct. Vide my *Obs.* on *Lanestrus*, &c.

Expansio alarum 1 unc. 3 lin.

Descriptio. Affinis præcedentibus at duplo minor; Antennis ferrugineis minus pectinatis et absque strigis moniliformibus. Maris *alæ anticæ* griseæ linea media trifurca albida a basi post medium ducta; *supra lineam* maculis tribus nigris difformibus parvis et stigmata ordinaria lutescentia circulo pallidiore: *subtus lineam* macula altera nigra trigona, et stigma tertium teliforme lutescente nigro cinctum sed aliquo interruptum; subtus hoc stigma lineola nigra ad marginem tenuiorem prope basin. Ordo transversus punctorum nigrorum cuspidatorum versus marginem posticum. *Alæ posticæ* fuscæ, ciliis flavicantibus.

pupillatus. 65. * † B. T. (The pupilled Dart) Alis fuscescentibus stigmatibus ordinariis subocellatis, stigmateque tertio teliformi sesquialtero.

Habitat in Anglia, D. Francillon, tempore et loco indeterminatis.

Descriptio. Alæ fuscescentes strigis duabus subflexuosis, et inter has color pallidior, stigmata 2 subocellata, lineolaque brevis duplex sesquialtera e media striga anteriori oriente.

sagittiferus. 66. B. T. (The Archer's Dart) Alis griseis fusco nebulosis, costa fusca punctis griseis, strigaque postica punctorum sagittatorum.

B. sagittiferus Prod. Lep. Brit. 9. 55.

Habitat in Compascuis *Imago* rarissima tempore æstate. In Norfolcia semel capta et ad me missa amicissimo meo J. Burrell, M. A.

Expansio alarum 1 unc. 6 lin.

Descriptio. Affinis B. Gramineo, et duplo major. *Maris* Antennæ pectinatæ griseæ. *Alæ anticæ* griseæ fusco aliquo nebulosæ, stigmatibus ordinariis, anticum parvum ocellare, punctulo

punctulo nigro pro pupilla, iride late albida nigro cincta; stigma posticum magnum reniforme nigrum albo nigroque cinctum. Stigma tertium maximum claviforme fere ad basin alæ attingens sed aliquo interruptum. Versus marginem posticum striga undata punctorum sagittatorum, ciliisque immaculatis.

β ciliis fusco punctatis. In Museo amicissimi mei D. Jones.

B. T. (The Shuttle-shaped Dart) Alis grisescentibus macula quadrata baseos, fimbriaque saturatioribus, in qua striga pallida punctorum sagittatorum. *radius.* 67. * †

B. radius Prod. Lep. Brit. 10. 56.

HABITAT rarissime in Compascuis. In Anglia, tempore ignoto, semel capta erat amicissimo meo D. Jones.

EXPANSIO alarum 1 unc. 4 lin.

DESCRIPTIO. Mas magnitudine et statura præcedentis. Antennæ pectinatæ. Thorax cristatus. *Alæ superiores* pallide fuscescentes stigmatibus tribus; duobus anterioribus parvis radiiformibus; exteriore magno reniformi. Margo costalis aliquo fusco pallidoque punctata. *Alæ posticæ* albicantes.

****** BISTIGMATIFERI (*Two-ringed*). *Alis sæpe griseis stigmatibus duobus ordinariis sæpe margine solo conspicuis, strigaque rectiuscula, rarius undulata, versus marginem posticum. Puppa subterranea.*

B. B. (The deep brown Dart) Alis nigris, fascia triangulari media, strigaque postica nigro-rufis obsoletissimis. *fuscus.* 68. *B. fuscus Prod. Lep. Brit.* 9. 48. * †

HABITAT in Anglia rarissime. Semel capta erat amicissimo meo D. Jones, tempore et loco ignotis.

EXPANSIO alarum 1 unc. 6 lin.

DESCRIPTIO. *Alæ anticæ* nigræ, fascia media certo situ solo conspicua, valde angulata nigro-rufa, ad marginem tenuiorem valde attenuata; in qua stigmata ordinaria vix conspicua; anterius fuscum ovale antrorsum inclinans; exterius rectum reniforme fuscum, ad latus interius nigrum. Striga postica repanda nigro-rufa fere obliterata. *Alæ posticæ* albæ immaculatæ.

B. B. (The Hebrew Character) Alis griseo-fuscescentibus arcu lineolaque media nigris, stigmatibus margine pallido solo conspicuis. *gothicus.* 69.

Noctua gothica Linn. Faun. Suec. 1192.—*Linn. Syst. Nat. tom.* 2.

tom. 2. *p.* 851. 159.—*Gmel. Syst. Nat.* 2568.—*Villars Ent.* 2. 230. 221.—*Fab. Ent. Syst.* 3. 85 249.

Habitat *Imago* m. Apr. Sepibus rarius.

Expansio alarum M. 1 unc. 5 lin. F. 1 unc. 6 lin.

Descriptio. Maris antennæ griseæ pectinatæ. *Alæ anticæ* punctis duobus distinctis basi (in femina confluentibus) duobusque seu tribus costalibus æquali spatio remotis; tunc strigis tribus obsoletis pallescentibus æquali spatio itidem remotis; inter 1 et 2 arcus magnus lineolaque quadrata nigri. Inter arcum et lineam macula brunnea. In sinu arcûs versus costam stigma anticum: et pone arcum versus posticum stigma reniforme, marginibus albicantibus solo conspicua: pone stigma posticum, præcipue in femina, macula altera brunnea. Postica pars *alæ* saturatior est. *Alæ posticæ* fuscescentes. Femina magis grisea minusque cinerea.

β. Var. feminæ, lineola in medio duplo longior.

oleaginus. 70. * † B. B. (The green-brindled Dot) Alis viridi nigroque marmoratis macula reniformi limbo crenato flavo.

B. oleagina Fab. Mant. 2. 117. 92.—*Vill. Ent.* 2. 172. 104.? —*B. oleagina Panz. Faun. Germ.*—*Noctua oleagina Hübner Schmet. pl.* 7. *Noct.* 33.

Habitat rarissime in Anglia, D. Plastead; etiam in Wallia, D. Donovan. *Imago* m. Jul.

Expansio alarum 1 unc. 7 lin.

Descriptio. *Alæ anticæ* fusco viridi luteoque variæ, punctis quinque costalibus albis versus apicem. Stigmata ordinaria, anterius fuscum annulare cincto albo, exterius magnum reniforme album. *Alæ posticæ* pallidæ margine fusco.

nebulosus. 71. * † B. B. (The scarce clouded Drab) Alis griseo-canescentibus strigis duabus fusco-ferrugineis, alteraque postica e punctis tribus subtriangularibus.

Habitat rarissime in Anglia D. Plastead, tempore et loco ignotis.

Expansio alarum 1 unc. 6 lin.

Descriptio. Antennæ paulo pectinatæ (in mare.). In medio alarum primorum fascia fusco-ferruginea seu grisea, in qua macula ordinaria, solo margine conspicua; ciliis maculatis. *Alæ posticæ* grisescentes margine saturatiore: margo ipse rufescens.

subsetaceus. 72. B. B. (The clouded Drab) Alis cinerascentibus griseo-nebulosis, lunulis tribus griseis ad strigam posticam albicantem.

B. subsetaceus

B. subsetaceus Prod. Lep. Brit. 19. 40.

Habitat *Larva* in Salicetis. *Imago* i. Apr. Viminosis, vespere circumvolitans inter amenta farinifera Salicum.

Expansio alarum 1 unc. 7 lin.

Descriptio. Simillima præcedenti et fere eadem. Antennæ (in mare) oculo nudo minime pectinatæ; stigmata albo cincta; inter hæc macula griseo ferruginea, alteraque opposita ad marginem tenuiorem. *Alæ posticæ* fuscæ.

Obs. Variat magis minusque nebulosa, sed lunulæ posticæ extrorsum spectantes, in alis anticis semper remanent.

B. B. (The twin spotted Drab) Alis griseo-cinereis, subnebulosis, strigaque postica e punctis tribus geminatis. *geminatus.* 73. *

Habitat *Larva* in Quercu. *Puppa* sub Terra. *Imago* i. Ap. Quercetis.

Expansio alarum 1 unc. 8 lin.

Descriptio. Exemplar solitarium tantum vidi. Duobus præcedentibus valde affinis at minus nebulosus: ciliæ immaculatæ: thorax cinereo-griseus: striga postica in alis anticis, ex maculis duabus seu tribus geminatis, una harum ad costam subsimplex.

B. B. (The ferruginous Drab) Alis pallide ferrugineis punctis duobus posticis contiguis nigris. *bimaculatus* 74. * †

Habitat in Anglia rarissime. Semel capta erat amicissimo meo D. Jones, tempore et loco oblitis.

Expansio alarum 1 unc. 7 lin.

Descriptio. Antennæ subsetaceæ. *Alæ anticæ* subferrugineæ concolores stigmatibus fere obliteratis, exterius reniforme et ad latus interius saturatius: anterius annulare obsoletissimum margine solo vix conspicuum. *Alæ posticæ* pallidiores.

B. B. (The lead-coloured Drab) Alis plumbescentibus griseo subnebulosis, striga obsoleta postica e punctis griseis extus pallido adnatis. *subplumbeus* 75.

Habitat rarissime in Quercu. *Puppa* sub Terra. *Imago* i. Ap. Quercetis.

Expansio alarum 1 unc. 6 lin.

Descriptio. Antennæ multo magis pectinatæ quam in quatuor præcedentibus vel in quatuor sequentibus. Stigma anticum annulare, posticum reniforme. *Alæ posticæ* fuscescentes.

Obs. In exemplaribus præclaris striga obsoleta undata ante stigmata, alteraque dentata pone stigmata.

fuscatus. 76. B. B. (The dark Drab) Alis nigricantibus, annulis duobus strigaque subundulata pallidis.

Habitat *Larva* in Quercu. *Pupa* sub Terra. *Imago* i. Ap. Quercetis.

Expansio alarum 1 unc. 7 lin.

Descriptio. Antennæ subsetaceæ. Stigmata margine solo conspicua, anticum oblongum, posticum reniforme. *Alæ posticæ* fuscescentes fimbria obscura saturatiore. Mas magis obscurus quam femina.

angustus. 77. B. B. (The narrow-winged Drab) Alis spadiceo fuscoque variis annulis duobus, strigaque postica fracta pallidioribus obsoletisque.

Habitat in Anglia rarissime *Imago* mense Aprili Salicetis.

Expansio alarum 1 unc. 6 lin.

Descriptio. Præcedenti nimis affinis, sed alis omnino angustioribus et spadiceo magis notatis. Feminam tantum adhuc vidi.

Lotus. 78. B. B. (The Red Line Quaker) Alis cinereis puncto pone medium atro, strigaque postica rufa, stigmatibus rufo marginatis.

B. Lota Linn. Faun. Suec. 1139.—*Linn. Syst. Nat. tom.* 2. *p.* 830. 70.—*Gmel. Syst. Nat.* 2434.—*Fab. Ent. Syst.* 3. 454. 145.—*Fab. Mant. Ins.* 2. 124. 134.—*Fab. Spec. Ins.* 2. 191. 95.—*Villars Ent.* 2. 178. 124.—*Esper Schmet.* 3. *t.* 67. *f.* 1.

Habitat *Larva* in Salice verno tempore, *Imago* Autumno Truncis rarissime prope Londinum. Prope Bedfordiam semel capta et ad me missa amico meo C. Abbott, D. D.

Expansio alarum 1 unc 6 lin.

Descriptio. *Larva* cinerea lineis nigris albisque punctisque albidis. *Fab.*

Imago. Maris Antennæ oculo nudo minime pectinatæ, ut in præcedente et sequente. *Alæ anticæ* cinerascentes punctis costalibus aliquo atris, stigmata ordinaria in medio margine tenuissimo rufo solo conspicua; in basi stigmate reniformi punctum majusculum atrum. Striga versus marginem posticum rufa extus albida. *Alæ posticæ* fuscæ.

sparsus. 79. B. B. (The powdered Quaker) Alis griseo-cinereis atomis fuscis, strigaque postica fusco-alba.

B. sparsus Prod. Lep. Brit. 9. 39.

Habitat

Habitat *Larva* æstate in Salicibus summis. *Puppa* sub Terra. *Imago* f. Apr. Viminosis satis infrequens.
Expansio alarum 1 unc. 8 lin.
Descriptio. *Larva* viridis in foliolis summis Salicis viminalis, quæ contrahit et progressum surculorum absolute destruit.
Imago. Femina tota griseo-cinerea atomis fuscis minutissimis, strigaque punctorum fuscorum pone stigmata fuscescentia. Versus marginem posticum striga fuscescens extus albicans. *Alæ posticæ* cinereæ fimbria lata fuscescente. Marem non possideo. Antennæ pectinatæ?

B. B. (The common Quaker) Alis griseo ferrugineis annulis duobus distinctis strigaque postica flavescentibus. *Cerasus.* 80.
Noctua Cerasi Fab. Ent. Syst. 118. *An itidem Bombyx Cerasus Fab.?—Villars Ent.* 2. 257. 277. *excluso synonymo Roesel. quæ ad N. flavo-cinctinam pertinet.*
Habitat *Larva* in Salice. *Puppa* sub Terra. *Imago* i. Apr. Salicetis frequens.
Expansio alarum 1 unc. 6 lin.
Descriptio. Maris Antennæ pectinatæ ferrugineæ. *Alæ anticæ* punctulis 1-2 baseos, 2-4 costalibus, aliisque in margine postico aliquo fuscis. Stigmata ordinaria marginibus lutescentibus sola conspicua: subinde in basi stigmatis reniformis punctum subfuscum. *Alæ posticæ* fuscescentes.

B. B. (The conjoin'd Quaker) Alis griseo-ferrugineis, annulis duobus confluentibus strigaque postica pallidis. *junctus.* 81.
B. junctus Prod. Lep. Brit. 9. 43.—*Albin's Ins.* 75. *c. d.*
Habitat *Larva* Salice. *Puppa* sub Terra. *Imago* i. Ap. Salicetis vix frequens.
Expansio alarum 1 unc. 5 lin.
Descriptio. Præcedenti simillima et fere eadem sed paulo minor. *Antennæ* minus pectinatæ. Dignoscitur primo intuitu stigmatibus junctis nec liberis seu distantiusculis, unde nomen; cæteris præcedente omnino convenit.
Obs. Nunquam ullo modo variat.

B. B. (The small Quaker) Alis griseis stigmatibus distantibus obsoletis fuscis griseo cinctis, strigisque duabus obsoletis punctulorum fuscorum. *nanus.* 82.
B. nanus Prod. Lep. Brit. 9. 44.
Habitat *Larva* in Salice. *Puppa* sub Terra. *Imago* i. Apr. Salicetis.
Expansio alarum 1 unc. 3 lin.
Descriptio. Præcedente minor, sed antennæ magis pectinatæ rachi

rachi ferruginea radiis griseis. *Alæ anticæ* griseo-ferrugineæ punctis sparsis baseos fuscis. Stigmata distantia, anticum parvum subinde obliteratum; posticum reniforme, et pone hoc ordo extus arcuatus punctulorum minutorum fuscorum, alterque magis obsoletus ad marginem posticum. *Alæ posticæ* fuscescentes. Femina magis obscura.

pusillus. 83. * B. B. (The dwarf Quaker) Alis griseis stigmatibus contiguis obsoletis lineolaque fuscescentibus, strigaque marginali punctorum fuscorum.

Habitat rarissime in Anglia cum præcedente. *Puppa* sub Terra.

Expansio alarum 1 unc.

Descriptio. Exemplar unicum mihi donatum amico meo D. Howard Kingslandiæ tantum vidi. Præcedenti valde affinis, sed fere duplo minor magisque crassa pro ratione magnitudinis. *Antennæ* desunt. *Abdominis* barba grisea macula nigra quæ præcedens caret. *Alæ anticæ* magis rotundatæ seu retusæ, stigmatibus minus remotis, postico seu reniforme majore oblongiore saturatiore, lineola crassa fusca subinterrupta a stigmate anteriore versus basin ducta, quæ omnino deest in præcedente. Omnium nostratum Bombycorum minimus est, sed pro ratione magnitudinis valde obesus.

******* ESTIGMATIFERI (*Ringless*). *Stigmatibus propriis nullis. Alis plus minusve cervinis, ferrugineis vel lutcis.*

† Cervini (*Fawns*). *Alis plus minusve cervinis.*

lanestris. 84 B. E. (The small Eggar) Alis griseis maculis duabus strigaque incurva postica albis.

B. lanestris Linn. Faun. Suec. 1105.—*Linn. Syst. Nat. tom.* 2, *p.* 815. 28.—*Gmel. Syst. Nat.* 2412.—*Turt. Syst. Nat. p.* 203. —*Fab. Ent. Syst.* 3. 429. 68.—*Fab. Syst. Ent.* 2. 566. 37.—*Fab. Mant. Ins.* 2. 113. 61.—*Fab. Spec. Ins.* 2. 179. 53.—*Villars Ent.* 2. 127. 16.—*Donov. Br. Ins.* 210. *Fem.*—*Harris Aur t.* 25. *o. n.*—*Wilks, pl.* 53.—*Müll. Zool. Dan.* 1354. —*Berk. Syn.* 1. 134. 7.—*Albin's Ins.* 19. 26.—*Scopol. Carn.* 499.—*Hübner Schmet.* 38. 169. 70.—*Schæf. Icon.* 38. 10. 11. *Roesel. Ins. cl.* 2. 42.

Habitat *Larva* in Pruno spinoso f. Jun. *Imago* f. Feb. Dumetis.

Expansio

Expansio alarum M. 1 unc. 4 lin. F. 1 unc. 7 lin.

Descriptio. *Larvæ* cohabitant in societate sub tentoriis cellulosis, unde migrant pabulaturæ redeuntque per foramina, ramis parallela. Larva pilosa nigra; segmento singulo punctis 3 albis inter maculas 2 rubras pennicillatas. *Villart.*

Puppa folliculata sulphurea. *Fab.*

Imago. Alæ anticæ subferrugineæ puncto magno baseos, alteroque medio, strigaque postica obsolete denticulata albis. Pone strigam postica pars alæ præcipue in mare cinerascit. *Alæ posticæ* in mare, cinerascentes, in femina griseæ.

Obs. Antennæ pectinatæ in mare, Thorax fuscus percrassus. Abdomen basi fuscum apice pallidiore et valde lanatum. Femina paulo obscurior. Antennæ setaceæ. Thorax et Abdomen griseo-fusci barba cinerascente.

Obs. 2. The parental cares of Nature, which are so conspicuously manifested towards the most insignificant of her productions, (if any can be called such) are extended towards this poor insect in a very extraordinary and interesting manner. Doomed to a regular appearance in the winged state at the termination of the cold and ungenial month of February, Nature (that it may not fail and become extinct) reserves a small portion of it annually in the *Puppa* state, until the February following that of its *Puppation*, and sometimes even until the third occurrence of that frigid month; denying their emancipation all the intermediate time, and thus effectually securing, by these unusual means, the safety and perpetuation of an animal, small it is true, but whose *annual existence at that inclement season in the winged state*, is probably of more consequence in the intricacy of its great Creator's plans, than we are at present aware of, although he constantly exposes it to the dangerous vicissitudes of winter: for

" Each shell, each crawling insect, holds a rank
" Important in the plan of Him who fram'd
" This scale of beings; holds a rank which lost
" Would break the chain, and leave behind a gap,
" Which Nature's self would rue."

The cause of such exceeding care and solicitude over the welfare of the Moth *lanestrus*, it is difficult for any one to explain or account for, in any satisfactory manner; unless indeed to such a one as the *divine Stillingfleet*, author of the above inimitable lines, who, " thoroughly imbued in divine " philosophy, had an uncommon insight into the uses of " every object of Natural History, and gave a sanction to " those studies, which by trivial observers were held most " contemptible."

" contemptible." (Vide a grateful Eulogium, replete with excellence and merit, on Mr. Stillingfleet, by Pennant, in British Zoology, Vol 4. Preface.) I confess myself at a loss which the most demands my admiration and esteem—the gratitude and affectionate friendship of the eulogist, or the grandeur and sublime simplicity of the character he so deservedly praises.

Obs. 3. The Insect *lanestrus* is probably of great service to many of our *soft-billed* birds, at a season when little and insufficient quantities of food are to be procured, especially in severe and rigorous winters, in which the ground remains a long time covered with snow; when this poor Moth, and some other species of Lepidoptera, (as soon as escaped from the *Puppa*) stick torpid upon the trunks of trees, where these birds readily find and devour them (*a*); and thus escape from hunger at a time when worms or other *terrestrial food* are either difficult or impossible for them to procure. These birds, thus saved, are of incalculable service the following spring; in restraining *within due limits* (*b*) the insect despoilers of the vegetable kingdom; during which they never fail to cheer us with their charming songs, and lessen the destructive numbers of Caterpillars in our orchards and gardens: until in their turn they become the prey, the *necessary prey*; of some

(*a*) All Insects except Lepidoptera in the winged state, conceal themselves during the time of severe frosts, in places inaccessible to birds.

(*b*) Certain species of Insects, of this as well as other classes, have sometimes multiplied themselves to a very alarming degree; (vide *Obs.* on Phæorrhœus) probably owing to some fatality amongst their natural enemies, the winter preceding that of their superabundance—such as the destruction of their feathered devourers; or their still more formidable foes of the genus Ichneumon: a large host of which appear to have been created for the very purpose of keeping within due bounds, certain and determined species of other Insects; but more especially the Lepidoptera: without the Larvæ of which as their proper food, they must themselves become extinct. Vide *Obs.* on *Vinulus*.

The *soft-billed* birds could not rear their young if deprived of the soft and nutritious aliment of Lepidopterous Larvæ; which are always found in very increased and destructive numbers, on all sorts of vegetables, during the customary periods of nidification.

insidious weasel, or birds more powerful and rapacious than themselves! I repeat *necessary prey*, because they themselves would become *too numerous if ne er destroyed*; to the total extirpatio of various insects; whos existence in the scale of things is as essential as their own, to keep within appropriate bounds certain vegetables, which otherwise would multiply to the total exclusion of other weaker and smaller, but equally necessary species; and so on *ad infinitum*: until at length the head, and prince, and king of all created beings, *man himself*, would *feel the chasm*, and experience inevitable woe.

" Almighty Being,
" *Cause and support of all things*, can I view
" These objects of my wonder; can I feel
" These fine sensations, and not think of thee?"

Stillingfleet.

Obs. 4. When an Aurelian possesses a brood of this Moth, he readily learns, on the arrival of the month of February, which of his *Puppæ* will become winged that year. This always happens to by far the greater number, and its approach is denoted by the swelling of the larger belts of the *Puppæ*. Those which are intended to rest until another season, do not swell until that season approaches.

How is this swelling accomplished, and whence is the additional matter (if any) acquired? or is the swelling only a dilatation of the substance already there, and from what cause? It cannot be heat; because all the *Puppæ*, those which *do not*, as well as those which *do* swell, are kept in an equal temperature, and experience the very same treatment. Perhaps they are endowed *ab ovo*, by some *differing principles*, which require the differing periods of *one*, *two*, and *three seasons*, to ripen and bring them to complete maturity; and render them capable of accomplishing *the full intentions* of their beneficent Creator.

Obs. 5. I find in my Memoranda the end of March also mentioned as the time of *lanestrus* assuming the winged state.

B. E. (The December Moth) Thorace atro antice pallido, alis fuscescentibus basi brunneis, striga sesquialtera repanda albicante. *Populeus.* 85.

B. Populi Linn. Faun. Suec. 1101.—*Linn Syst. Nat. tom.* 2. *p.* 818. 34.—*Gmel. Syst. Nat.* 2414.—*Tur. Syst. Nat. p.* 203.—*Fab. Ent. Syst.* 3. 429. 70.—*Fab. Syst Ent.* 2. 566. 38.—*Fab. Mant. Ins.* 2. 113. 61.—*Fab. Spec Ins.* 2. 179. 54.—*Villars Ent.* 2. 133. 22.—*Donov. Br. Ins.* 207. *Fem.*

—*Wilks.*

—*Wilks, pl.* 48.—*Hüb. Schmet.* 36. 163.—*Esper Schmet.* 3. *t.* 25.—*Bork Syn.* 1. 134. 11.—*Fayn. Ingr.* 669.—*Albin's Ins.* 185.—*Roes. Ins. cl.* 2. 59.—*S. hæf. Icon.* 279. 1. 2. *Mas.*

Habitat *Larva* in Populo; *Imago* i. Dec. Truncis valde infrequens.

Expansio alarum M. 1 unc. 5 lin. F. 1 unc. 8 lin.

Descriptio. *Larvæ* cinerea: dorso obscuriore, segmentis singulis punctis duorum parium rubris. *Fab.*

Puppa folliculata antice fusca, postice rubra. *Fab.*

Imago. Maris antennæ nigræ valde pectinatæ. Thorax percrassus antice pallidus postice ater. Abdomen fuscum. *Alæ anticæ* fuscescentes: basi et ad marginem tenuiorem usque ad medium brunneæ; strigis duabus pallidis, una prope basin valde incurvata, quæ ad marginem tenuiorem non attingat, secunda pone medium undulata; ciliis griseis fuscisque. Femina magis obscura, striga antica obliterata.

Obs. This species, with the last, and several of *my Phalænæ*, and some *Tineæ* and *Tortrices*, form an essential part of the winter food of our *soft-billed* birds; and must in severe weather prove very acceptable to them, when but little other soft food is to be found. They cannot subsist upon grain, like the *hard-billed* species.

castrensus. 86. B. E. (The Ground Lackey) (Mare) thorax lutescens, alis luteo-griseis strigis 2 cervinis. (Femina) cervina strigis 2 lutescentibus.

B. Neustria β. Linn. Faun. Suec. 1102. *Femina.*—*B. castrensis Fab. Ent. Syst.* 3. 432. 80.—*Fab. Syst. Ent.* 2. 568. 43.—*Fab. Mant. Ins.* 2. 115. 71.—*Fab. Spec. Ins.* 2. 181. 59.—*Villars Ent.* 2. 134. 24.—*Gmel. Syst. Nat.* 2415.—*Turt. Syst. Nat. p.* 205.—*Esper Schmet.* 3. *t.* 28. *f.* 1. 2.—*Roesel. Ins. cl.* 2. 44.—*Phalæna tesseraria pratensis De Geer Gen. Ins.* 36. 43.

Habitat *Larva* in Artemisia maritima in Insula Shepey copiose. D. Curtis—alibi rarissima. *Imago* i. Aug.

Expansio alarum M. 1 unc. 4 lin. F. 1 unc. 9 lin.

Descriptio. *Larva* pilosa subcœrulea lineis utrinque duabus lateralibus ferrugineis approximatis, et dorsali 1. utrinque, lata, nigra maculata. Abdomen albo utrinque maculatum. Caput cinereum. Polyphaga pascitur sub tela, gregaria, migratque sæpius novo tentorio, ova more sequenti in annulos conferta circum ramulos. Hæc frequens in Suecia duplici colore occurrit, eadem tamen, diversa a Neustria cum illa arborea, hæc terrestris. *Villars*, l. c.

Puppa folliculata obscura. *Fab.*

Imago.

Imago. Mas valde lanatus et percrassus. Antennæ griseæ valde pectinatæ. Thorax flavescens. Abdomen et *alæ posticæ* cervinæ ciliis lutescentibus. *Alæ anticæ* lutescentes cervino nebulosæ, strigis duabus cervinis, ciliis flavescentibus, cervino maculatis. *Femina* omnino saturate cervina strigis duabus obliquis luteis in *alis anticis*.

B. E. (The barr'd Tree Lackey) Thorace alisque griseis, fascia saturatiore media, utrinque striga pallida terminata. *Neustrius.* 87.

B. Neustria Linn. Faun. Suec. 1102. *Mas.—Gmel. Syst. Nat.* 2414.—*Turt. Syst. Nat. p.* 205.—*Fab. Ent. Syst.* 3. 432. 79. —*Villars Ent.* 2. 133. 23.—*Donov. Br. Ins.* 95. *Fem.—Faun. Ingr.* 670.—*Müll. Zool. Dan.* 1358.—*Berk. Syn.* 1. 35. 12.— *B. Neustria* ♀ *Panz. Faun. Germ.* . . . .—*Admiral Ins. pl.* 28. —*Merian Eruc. pars* 1. *pl.* 33.—*Albin's Ins. t.* 19. 27.—*Harris Aur. t.* 17. *e. f.—Wilks, pl.* 45.—*Roesel. Ins. cl.* 2. 6.— *Goed. Ins. vol.* 2. 10.—*List. Goed. f.* 89.

Habitat *Larva* gregaria in vasto telo in Pomiferis Junio, ubi folia male devastat. *Imago* m. Aug. Hortis nimis frequens.

Expansio alarum M. 1 unc. 5 lin. F. 1 unc. 9 lin.

Descriptio. *Larva* gregaria glauca lineis utrinque tribus rubris dorsalique alba. *Fab.*

Puppa folliculata fusca. *Fab.*

Imago simillima præcedenti magnitudine et statura, sed vero differt. Maris thorax cervinus nec flavescens. *Alæ* minus lutescentes. Femina mare pallidior nec saturatior et saturate cervina ut in præcedente.

Obs. The *Larvæ* of this species are one of the greatest pests our fruit-trees labour under. They are sometimes quite defoliated by these voracious Caterpillars, and covered over with their noisome webs. The Female Moth, when she deposits her eggs in autumn, agglutinates them in the neatest manner imaginable, all in close and symmetrical contact, round a twig of about one year's growth. These hatching a little after the foliation of the tree in spring, do not separate, but live in one society, and form themselves one common web, which they enlarge from time to time, as they find necessary, to accommodate their increasing sizes, communicating at length to the almost defoliated tree, a very sickly and disagreeable appearance.

The best way of destroying them, and all other tree-feeding Caterpillars, is to shake the branches violently, either with the hand, or a pole with a hook to it: this brings them quickly to the ground, where they are easily destroyed. Poultry if admitted will pick them up with avidity.

bilineatus. 88. B. E. (The striped Tree Lackey) Omnino lutescens, alis anticis strigis duabus cervinis.

B. Neustria Smith's Georgian Ins. t. 59. (a)—B. Neustria ♂ Panz. Faun. Germ. . . . .—Schæf. Icon. 209. 2. Mas.

HABITAT cum præcedente eodem tempore at longissime rarior.

EXPANSIO alarum M. 1 unc. 6 lin.

DESCRIPTIO. Mas simillimus præcedenti, magnitudine et statura; colore tantum differt. Antennæ griseæ. Thorax flavescens. Abdomen flavo-griscscens. *Alæ omnes* flaveseentes, subinde tinctura grisea: *anticæ* strigis duabus gracilibus pallide cervinis: (nec medio saturatiores strigis a flavescentibus ut in præcedente) ciliis cervinis flavisque.

Feminam non possideo.

†† APICATI (*Chocolate Tips*). *Alis strigis quatuor anastomosantibus; apicibus alarum plus minusve rufescentibus.*

curtulus. 89. B. E. (The Chocolate Tip) Alis cinereo-rufescentibus strigis 4 pallidis, apice testaceo-cervino, posticis rufescentibus.

B. curtula Linn. Faun. Suec. 1124.—Linn. Syst. Nat. tom. 2. p. 822. 52.—Gmel. Syst. Nat. 2426.—Turt. Syst. Nat. p. 212. —Fab. Ent. Syst. 3. 447. 123.—Fab. Syst. Ent. 2. 574. 61.—Fab. Mant. Ins. 2. 120. 112.—Fab. Spec. Ins. 2. 188. 84.—Villars Ent. 2. 149. 52.—Müll. Zool. Dan. 1366.—Seba Thes. 4. 63. B.—Esper Schmet. 3. t. 51. f. 1-5.—Albin's Ins. 88. c. d.—B. curtula Panz. Faun. Germ. . . . .—Sepp. Ins. v. 1. 17. 18.—Phalæna alticauda furcata De Geer Gen. Ins. 39. 61.

HABITAT *Larva* f. Sept. in Populo. *Imago* f. Apr. Populetis.

EXPANSIO alarum M. 1 unc. 5 lin. F. 1 unc. 6 lin.

DESCRIPTIO. *Larva* solitaria pilosa cinerea striis quatuor punctorum ferrugineorum. *Fab.*

IMAGO, Maris Antennæ griseæ valde pectinatæ. Thorax in dorso fronteque brunneo-rufus, lateribus rufescentibus. Anus fasciculato-pilosus. *Alæ anticæ* cinereo-griseæ, strigis 4 rectis aliquo anastomosantibus albicantibus: maculaque

(a) Dr. Smith has applied to several of the other figures in this beautiful work, the names of species known in Britain, which I have not thought proper to cite, because they *appear to me* to be either varieties which I never saw of British origin, or species altogether distinct from ours.

magna

magna apicis testaceo-brunnea, seu nitide rufo-cervina, in qua striga obsoleta e punctis 5 aliquo fuscis. *Alæ posticæ* cinereo-griseæ.

B. E. (The scarce Chocolate Tip) Alis rufescentibus apice fulvo, macula intermedia nigra, strigisque albis. *anachoreta.* 90. *

B. anachoreta Villars Ent. 2. 158. 77.—*B. anachoreta Fab. Ent. Syst.* 3. 447. 125. †

Habitat rarissime in Anglia. In Museo D. Swainson?

Expansio alarum M. 1 unc 3 lin. F. 1 unc. 4 lin.

Descriptio. Alæ griseæ strigis 4 albidis, quarum ultima maculam apicis undata transit. Ad angulum ani *alæ anticæ* puncta duo atra, altero majore. *Fab.*

Larva pilosa fusca: stria dorsali incarnata, verrucis duabus elevatis punctisque lateralibus rufis. *Fab.*

B. E. (The small Chocolate Tip) Alis fuscescentibus strigis 4 pallidis maculaque ante apicem rufa, posticis fuscis. *reclusus.* 91.

B. reclusa Fab. Ent. Syst. 3 447. 124.—*Fab. Mant. Ins.* 2. 120 113.—*Gmel. Syst. Nat.* 2426.—*Villars Ent.* 2. 158. 78. —*Phalæna anastomosis Donov. Br. Ins.* 124. *Fem. et* 129. 4. *Fem. iterum.*—*B. reclusa Esper Schmet.* 3. *t.* 51. *f.* 6. 7.

Habitat *Larva* in Populo tremulo f. Sept. *Imago* Maii. Prope Londinum rarissime. In Bedfordia semel capta amico meo C. Abbott, D. D.

Expansio alarum M. 1 unc. 1 lin. F. 1 unc. 2 lin.

Descriptio. Affinis præcedenti at minor. Thorax antice ater lateribus cinereis. Anus fasciculato-pilosus. *Alæ anticæ* fusco-cinerascentes, strigis 4 subinterruptis et anastomosantibus albidis: ante quartam, macula costalis fusca, pone quartam altera major rufo-brunnea, quæ ad apicem non attingat. *Alæ posticæ* saturate fuscæ.

Obs. The Chocolate Tips have a peculiar habit; agreeing with each other, but differing much from the rest of the Bombyces, in their short deeply pectinated antennæ; peculiarly tufted anus; anastomosing strigæ, and rufous tips. There is a fourth species on the Continent, agreeing with them in all those particulars; but it is larger than *curtulus*, and has not yet, I believe, been found in England. It feeds on the Willow (probably in September or the beginning of October) and is called *anastomosis*. I have enumerated it in my Addenda to this Genus, amongst several others, which are given as British by Dr. Turton in his translation of Gmelin's Systema Naturæ, but upon what authority it does not appear.

††† Apteri

††† Apteri (*Vapourers*). *Mas corpore tenui. Alis ferrugineo variis. Femina aptera corpore valde obeso.*

antiquus. 92. B. E. (The Vapourer) Alis ferrugineis lunula albissima prope angulum posticum, abdomine feminæ ovato.

B. antiqua Linn. Faun. Suec. 1120.—*Linn. Syst. Nat. tom.* 2. *p.* 825. 56.—*Gmel. Syst. Nat.* 2439.—*Turt. Syst. Nat. p.* 226.—*Fab. Ent. Syst.* 3. 476. 216.—*Fab. Syst Ent.* 2. 584. 98.—*Fab. Mant. Ins.* 2. 130. 189.—*Fab. Spec. Ins.* 2. 204. 136.—*Villars Ent.* 2. 162. 88. *exclusis synonymis Goed. et List. Goed. quæ ad Gonostigmatum pertinent.*—*Ent. Par.* 263. 23.—*Donov. Br. Ins.* 16.—*Harris Aur. t.* 20. *m. n. o.*—*Wilks, pl.* 64.—*Hübner Schmet.* 20. 77.—*Müll. Zool. Dan.* 1369.—*Faun. Ingr.* 686.—*Scop. Carn.* 496.—*Berk. Syn.* 1. 137. 23.—*Phalæna paradoxa De Geer Gen. Ins.* 36. 40.—*Esper Schmet.* 3. *t.* 56. *f.* 1-4.—*Roes. Ins. cl.* 2. 13. *et cl.* 2. 39.—*Sepp. Ins. v.* 3. *t.* 33.—*Seba Thes.* 4. 51. N.—*Raj. Ins.* 173. 24.—*Swam. Hist. Ins. t.* 10.—*Hill's Swam. tab.* 33. *f.* 6. 7.—*Goed. Ins.* 1. 5. 9. *Fem.*—*List. Goed. f.* 79.

Habitat *Larva* in Quercu et Pomiferis Aug. *Imago* Sept. Hortis &c. frequens.

Expansio alarum M. 1 unc. 5 lin. F. aptera.

Descriptio. Maris *alæ* ferrugineæ; *anticæ* fusco nebulosæ; *posticæ* pallidiores immaculatæ. Femina cinerea, abdomine oblongo-ovato, rudimentis alarum cinereis.

gonostigmatus 93. B. E. (The scarce Vapourer) Alis fuscis maculis duabus albis oppositis: abdomine feminæ ovato-orbiculato fusco.

B. Gonostigma Linn. Syst. Nat. tom. 2. *p.* 326. 57.—*Gmel. Syst. Nat.* 2439.—*Turt. Syst. Nat. p.* 226.—*Fab. Ent. Syst.* 3. 477. 217.—*Fab. Syst. Ent.* 2. 585. 99.—*Fab. Mant. Ins.* 2. 130. 190.—*Fab. Spec. Ins.* 2. 202. 137.—*Villars Ent.* 2. 163. 89.—*Donov. Br. Ins.* 316.—*Hüb. Schmet.* 20. 78.—*Harris Aur. t.* 14. *d. g.*—*Scop. Carn.* 497.—*Berk. Syn.* 1. 137. 24.—*Esper Schmet.* 3. *t.* 56. *f.* 5-10.—*Wilks, pl.* 65.—*Albin's Ins.* 90. *b. c. d.*—*Goed. Ins. vol.* 2. 29. *Mas.* 30. *Femina.*—*List. Goed. f.* 78. *Mas. a. et* 78. *b. Fem.*

Habitat *Larva* in Quercu, Corylo, Betula. *Imago* i. Jul. i. Aug. Sylvis. Apud nos rarissime. Femina in Norfolcia semel a *Larva* educata, et mihi donata amicissimo meo T. Skrimshire LL. B.

Expansio alarum M. 1 unc. 5 lin. F. aptera.

Descriptio. *Feminæ* abdomen fuscum magis crassum quam in præcedente seu ovato-orbiculatum, rudimentis alarum fuscis. Marem non possideo.

Differt manifeste a præcedente; alæ ochraceæ maculis 2 albis, altera ad angulum ani, altera opposita ad marginem crassiorem, macula ferruginea innata. *Larva* gregaria fasciculata, fasciculis 8 dorsalibus albis, collaribus duobus analique nigris. *Puppa* antice flava postice nigra. *Fab.*

Quies octodecim dierum. *Fab.*

Differt adeo parum a Phalæna antiqua ac Sphinx Porcellus ab Elpenore, vel Phalæna Pavonia minor a majore, ut vix mereatur distingui; ex una certa altera olim orta, non casu. Villars, l. c.

†††† Dentistrigati (*Feathered Rustics*). *Alis strigis denticulatis.*

B. E. (The feathered Rustic) Thorace alisque griseis, strigis 4 denticulatis, punctisque duobus baseos obscuris. *phæus.* 94.

Prod. Lep. Brit. 11. 75.

Habitat *Imago* rarissime Peridumetis tempore oblito.

Expansio alarum M. 1 unc. 6 lin. F. 1 unc. 7 lin.

Descriptio. Antennæ pectinatæ, thorax *alæque anticæ* grisei, punctis 2 baseos oppositis, strigisque 4 undulato-denticulatis æquali spatio remotis fuscescentibus valde obsoletis. *Alæ posticæ* fuscescentes.

B. E. (The light feathered Rustic) Thorace antice atro, alis cinerascentibus postice saturatioribus, strigis 2 denticulatis atris. *denticulatus.* 95.

B. denticulatus Prod. Lep. Brit. 11. 76.

Habitat *Imago* i. Jun. Agriis v. d. rarissime. In com. Cantio prope Darn nuperrime capta, et mihi donata amicissimo meo J. Hatchett.

Expansio alarum M. 1 unc. 6 lin. F. 1 unc. 7 lin.

Descriptio. Antennæ pectinatæ rachi grisea. Thorax cinereus antice ater. *Alæ anticæ* usque ad medium glaucæ, postice saturatiores seu cinereæ, basi punctis duobus oppositis atris, striga tenuissima ante medium denticulata atra; tunc striga obsoletissima fuscescens, in qua macula majuscula loco stigmatis postici, et pone hanc, striga tenuissima atra. *Alæ posticæ* albicantes. Feminam non possideo.

††††† Graciles (*Slender-bodied*). *Corpore magis gracili quam in præcedentibus. Alis plus minusve luteis.*

B. E. (The clouded Buff) Alis luteis margine sanguineo lunulaque fusco-sanguinea, femineis fulvis venis lunulaque rufis. *Sannio* 96.

B. Sannio

B. *Sannio Linn. Faun. Suec.* 1135. *Mas.—Noctua russula Linn. Faun. Suec* 1156. *Fem.—Bombyx russula Linn. Syst. Nat. tom.* 2. *p.* 830. 71.—*Gmel. Syst. Nat.* 2436.—*Turt. Syst. Nat. p.* 220.—*Fab. Ent. Syst.* 3. 464.—*Fab. Syst. Ent.* 2. 579. 80.—*Fab. Mant. Ins.* 2. 127. 159.—*Fab. Spec. Ins.* 2. 194. 111.—*Villars Ent.* 2. 179. 125.—*Donov. Br. Ins.* 214.—*Hübner Schmet.* 99. 124-5.—*Faun. Ingr.* 682.—*Berk. Syn.* 1. 138. 29.—*N. Sannio Müll. Zool. Dan.* 1379.—*Scop. Carn.* 520.—*Esper Schmet.* 3. *t.* 67. *f.* 4. *Mas. t.* 67. *f.* 5. *Fem.*—*Roes. Ins. tom.* 1. *t.* 20 *f.* 6. 7. 8. *Mas. fig.* 5. *Fem.*—*Schæf. Icon.* 83. 4. 5. *Mas?* 1 *unc.* 9 *lin. F.* 1 *unc.* 7 *lin.*

Habitat *Imago* m. Jun. Ulicetis. Mas frequens, Femina longissime rarior.

Expansio alarum M. 1 unc. 8 lin. F. 1 unc. 5 lin.

Descriptio. Mas. Antennæ pectinatæ rachi sanguinea radiis nigris. Thorax *alæque anticæ* luteæ lunula media, costa versus apicem, marginibusque ceteris sanguineis; sed ad marginem tenuiorem lineola fusca. Margo costalis basi itidem fuscus. *Alæ posticæ* albidæ ciliis venisque lætissime sanguineis; lunula media, fimbriaque fuliginosis. Abdomen tenue, basi pallidum, postice atrum incisuris margine pallidis. Femina a mare valde discrepat. Statura minor, quæ rarissima est in Lepidopteris. Antennæ setaceæ rufæ. Abdomen atrum incisuris margine fulvis. *Alæ omnes* fulvæ, *anticæ* lunula venisque rufis; *posticæ* fulvæ venis rufis, basi, lunula media, fimbriaque postica (ex maculis tribus subconfluentibus) fuscis.

grammicus. 97. * B. E. (The feathered Footman) Alis luteis punctis 2. lineolisque nigris, posticis croceis lunula fimbriaque nigris.

B. grammica Linn. Syst. Nat. tom. 2. *p.* 831. 75.—*Gmel. Syst. Nat.* 2436.—*Turt. Syst. Nat. p.* 220.—*Villars Ent.* 2. 181. 129.—*B. grammicus Fab. Ent. Syst.* 3. 465. 182.—*Fab. Syst. Ent.* 2. 579. 81.—*Fab. Mant. Ins.* 2. 127. 61.—*Fab. Spec. Ins.* 2. 196. 113.—*Hüb. Schmet.* 28. 122-3.—*Esper Schmet.* 3. *t.* 68. *f.* 78.—*Faun. Ingr.* 683.—*Roesel. Ins. tom.* 4. 21.—*Merian Eruc. pars* 1. *pl.* 15.—*Raj. Ins.* 169. 28.—*Schæf. Icon.* 92. 2.

Habitat rarissime in Anglia, *Larva* in Fraxino. *Imago* m. Oct. Raj. l. c. In Wallia semel capta amico meo D. Donovan.

Expansio alarum M. 1 unc. 4 lin. F. 1 unc. 6 lin.

Descriptio. Statura omnino Noctuarum *Pseudo-tinearum* nobis. Mas. Antennæ pectinatæ. Abdomen luteum 5-serie nigro-punctatum. *Alæ anticæ* pallide luteæ punctulis 2 posticis

posticis contiguis, lineolisque confertis nigris. *Posticæ* saturate luteæ, lunula media, fasciaque postica aliquo fracta nigris. *Feminæ alæ anticæ* luteæ punctulis 2 lineolisque tantum ad marginem posticum nigris. *Posticæ* saturate luteæ, lunula, costa, margineque postico late nigris.

Obs. The pectination of the male antennæ in this species agreeing fully with my definition of *Bombyx*, has obliged me to insert it in that genus. It must be considered, however, rather as an artificial and convenient situation for it, than a natural one; which last would indisputably refer it to my Noctuæ *Pseudo-Tineæ*, from which the structure of the antennæ alone removes it.

The whole of that section, and *grammicus* also, belong to the Fabrician genus *Lithosia*, which is a very natural one, and perhaps sufficiently distinct from all others, although I have not ventured to adopt it.

B. E. (The Orange Underwing) Alis fuscis, anticis cinereo subfasciatis, posticis macula baseos fasciaque rufis. *Parthenius.* 98.

Noctua parthenias Linn. Faun. Suec. 1160.—*Linn. Syst. Nat. tom.* 2. *p.* 835. 94.—*Gmel. Syst. Nat.* 2437.—*Villars Ent.* 2. 197. 161.—*Bombyx vidua Fab. Ent. Syst.* 3. 468. 190.—*Fab. Syst. Ent.* 2. 580. 84.—*Fab. Spec. Ins.* 2. 197. 117.—*B. vidua Donov. Br. Ins.* 246. 1.—*Noctua Notha Hübner. Schmet.* 74. 343-4.—*Harris Aur. t.* 35 *i.*

Habitat *Imago* f. Mar. Siccifoliis v. d. Mas rarius, Femina longissime rarior.

Expansio alarum 1 unc. 4 lin.

Descriptio. Statura omnino Geometrarum. Maris Antennæ paulo pectinatæ atræ. Thorax et Abdomen itidem atri. *Alæ anticæ* fuscæ strigis aliquo cinerascentibus obsoletis, *posticæ* aurantio-rufæ, basi et ad latus interius nigræ, præterea striga media subinde interrupta margineque postico dentato-nigris. Femina pallidior antennis setaceis.

Obs. This species is almost in the same predicament as the last. Its pectinated *antennæ* fix it with my *Bombyces*, from which its habit, and semi-looping *Larva* (according to Hübner) remove it, and place it with the greatest propriety amongst his *Noctuæ semigeometræ*, whose *Larva*, and general slender appearance, would probably form another natural and sufficiently distinct genus, under the name of *Hemigeometra*, consisting of two grand sections, viz. *Robustiores* and *Graciles*. My aversion to the multiplying of genera, however, has prevented me from adopting any thing of that kind, and also was the cause of my not separating *Sphinx* from *Sesia*.

Sesia. If *Sesia* should be hereafter disjoined from that genus, all its *British species* would terminate uniformly in *formis*, with the single exception of *Stellatarum*, which on that event (averse as I am to the changing of established names) I would propose to call *Sesia Sphingiformis*.

ADDENDA.

Obs. In Dr. Turton's English translation of Gmelin's edition of Systema Naturæ, the following Bombyces are described as natives of Britain, but upon what authority it does not appear. They are specifically distinct from all those which are above enumerated, and also from each other. I have not either seen or heard of any one of them, in any collection of British Lepidoptera; but thought it necessary to mention them in this place under the shape of Addenda, that my readers may know they have been recorded on the above authority, as the spontaneous productions of Great Britain.

BOMBYX.

1. Ilicifolia. *Turt. Syst. Nat. p.* 195.
2. Dumeti. *Turt. Syst. Nat. p.* 202.
3. Processionea. *Turt. Syst. Nat. p.* 204.
4. Anastomosis. *Turt. Syst. Nat. p.* 212.
5. Trepida. *Turt. Syst. Nat. p.* 213.
6. Capuzina. *Turt. Syst. Nat. p.* 213.
7. Aulica. *Turt. Syst. Nat. p.* 213.
8. Purpurea. *Turt. Syst. Nat. p.* 211.
9. Matronula. *Turt. Syst. Nat. p.* 222.

Obs. 2. Since the above was written, I have found that Martyn in his Aurelian's Vade Mecum also gives *Bombyx Ilicifolia, Processionea,* and *Aulica,* as inhabitants of Britain.

5. APODA.

CHARACTER GENERIS.

Antennæ breves crassæ lente optimo quasi verticillatim perfoliatæ, apicem versus paululum attenuatæ.

Palpi fere Noctuarum at hirti; breves, sed porrecti.

Lingua fere nulla.

Alæ deflexæ; Corpus breve grossum; anique barba ut in Noctuis variis.

Larva valde obesa Limaciformis et fere apoda, dorso convexo, ventre plano.

Pupa grossa, hinc obtusissima, illinc acuta; in folliculo ovali firmo, et per egressionem Imaginis, superne eleganter circumscisa. Vide Donov. Br. Ins. tab. 76.

A. (The Festoon) alis deflexis flavis (ferrugineis): strigis duabus obliquis obscurioribus. F. *Testudo* 1.

Hepialus Testudo. Fab. Ent. Syst. 3. 7. 8.

Bombyx Testudo. Fab. Mant. Ins. 2. 121. 116.

Tortrix Testudinana. Hüb. Schmet. Tort. 26. 164. *Mas. et* 165. *Fem.*

HABITAT in Cantio, apud Darn Wood, at infrequens. Larva Aug. Quercu. Imago Quercetis m. Jul.

EXPANSIO alarum Mas. 10. lin. Fem. 1. unc.

DESCRIPTIO. Strigæ alarum ad marginem exteriorem coeunt. Larva apoda, ovata, nuda, viridis: lineis duabus dorsalibus, albidis *Fab. l. c.*

OBS. Mr. Donovan misconceiving this to be quite a nondescript, has figured it under the name of Phalæna funalis. But why he should select that termination it is not easy to surmise, as the Insect itself has no affinity whatever to a Pyralis! As a new genus it has characters of the strongest kind, above laid down, and with it should unquestionably rank, the Hepialus Asellus, and Hepialus Bufo of Fab. neither of which have yet been found in Britain. And it is but bare justice here to add the following remark of that greatest of all Entomologists Fabricius, concerning these Insects, "ultimæ tres species (meaning the above three) forte proprii generis mihi haudrite notæ." Fab. Ent. Syst. 3. 8.

My specimens being German ones I have prefered the description of this odd Insect, as above cited, to a new one.

6. HEPIALUS.

(THE SWIFT.)

Fab. Gen. Ins. 143.

CHARACTER GENERIS.

Antennæ subulatæ, moniliformes, thorace breviores, rarissime serratæ :in utroque sexu idem!

Palpi duo reflexi, pilosi. *Fab.*

Linguæ rudimentum bifidum, inter palpos. *Fab.*

Corpus crassum, longum.

Alæ omnes longæ, sublanceolatæ, absque stigmatibus, volatu celeri vespertino.

Larva polypoda, subterranea, radicivora.

Pupa longa, in tela terrea inter pabulum subgrossa, hirta, æquali crassitie, segmentis maximis turgidis, dorso lineis duabus paralellis muricatis.

CHARACTERES SPECIERUM.

Humuli. 1.

H. (The Ghost,) alis flavis, anticis maculatim fulvo striatis; maris omnibus albissimis.

Hepialus Humuli. Fab. Ent. Syst. 3. 5.

Phalæna Noctua Humuli. Lin. Faun. Suec. 1147.

Bombyx Humuli. Hüb. Schmet. Bomb. 48. *f.* 203. *et* 204. *mas. et fœm.*

Habitat, Larva inter radices graminum. Imago m. Jun. Graminosis, frequens.

Expansio alarum Mas. 1 unc. 10 lin.—2 unc. Fem. 2 unc—3 unc.

Descriptio. Antennæ subulatæ, articulatim moniliformes. Maris, alæ omnes supra perniveæ, marginibus subinde tenuissime lutescentibus, subtus fuscæ, marginibus latius fulvis: cætera plus minus fulva, oculi nigri solum excepti. Fœmina mare toto cœlo discrepat, duplo major, alæ anticæ flavæ, varie fulvo notatæ, atque maculatim striatæ: posticæ fere igneo-fulvæ, at basin versus pene fuscescentes; cætera ut in mare, sed subtus minus fuscescit. Variat absque fulvis notis.

Obs. The present location of this genus is not precisely the same as given above, in our table of genera. A considerable time

time has since elapsed, during which, the entomological science, still rapidly advancing, hath received both solid, and important improvements; as well in the establishment, as in the distribution of genera.

In the following pages proper advantages are taken of these, and several of the new genera adopted; the acceptance of which, however, sometimes overrules the propriety of universally continuing uniform terminations to the specific names. Wherefore, notwithstanding my declared esteem, for harmony and congruity, in those respects; it may be more eligible now, occasionally to discard them.

Obs. 2. This is the largest european species in the genus, yet it is a dwarf compared to its gigantic brethren of New Holland; from whence I have a shattered specimen, whose wings have expanded nine inches! and whose body is the largest lepidopterous one I ever beheld; measuring although without its head, no less than three inches and an half in length, and one and a quarter in breadth across the abdomen!—My largest Sphinx measures but seven inches and a half in expanse—two and three quarters in length, and three quarters only across the abdomen.—And my Noctua Strix, although it expands nine inches, has a body not two and a quarter in length.—And even the immense Bombyx Atlas, with me, notwithstanding it likewise expands its vast falcated wings nine inches, hardly measures an inch and a half in length, and half a one in breadth.

Obs. 3. The ghost moth has doubtless acquired its name, from the pure snowy hue of its wings, and from the circumstance of its usual haunts; often appearing at dusk, in the grassy parts of Churchyards, amongst the graves: out of which, at, and after twilight, it suddenly seems to arise a few feet; —then vanishes; or, steadily hovers on its well-poised wings; —then glides amongst the mansions of the dead. It is rarely visible more than a second or two at a time, in the same spot: but seems to sink into the ground; and again emerges slowly; yet quickly to escape the gazer's eye; its snowy hues at times reflecting, yet imperfectly, its dim form to his fancy, aided already by the solemn scenery around; which intercepts his vision, and which is still further baffled and impeded, as the misty ghosts, now fleeting over many a grave, keep playing up their pranks; and perform on easy wings, their various evolutions: now showing dark, now light, as their bellies, or their backs arrest the eye of their observer.

Now

Now it is the time of night,
That the graves, all gaping wide,
Every one lets forth his spright,
In the church-way paths to glide. SHAKESPEARE.

Forth he called out of deep darkness dread,
Legions of sprights, the which, *like little flies*
Flutt'ring about ———— SPENSER.

Mean time the village rouses up the fire,
While well attested, and as well believ'd,
Heard solemn, goes the goblin story round. THOMSON.

————Among these, Fancy next,
Her office holds; of all external things,
Which the five watchful senses represent,
She forms imaginations, airy shapes;
Which reason joining, or disjoining; frames
All that we affirm,———— MILTON.

OBS. 4. The Larvæ of this genus are amazingly hurtful to the roots of plants. Linnæus speaking of those of the present species, says "Habitat in radicibus Humuli Lupuli, quam "valde devastat non sine summo possessoris damno, quum "Ros melleus radicibus contaminatis totam plantam inungat "et eam abortivam reddat. Sub terra, ex ipsa terra, formant "cylindros perpendiculares spithameos osteocollæ simil- "limos." Lin. Faun. Suec. p. 305.

And in the same place speaking of the intense whiteness of the wings, adds, "Maris alæ supra summæ niveæ, ut quod "albidius me non vidisse meminerim."

But to conclude the digression, we pass on to,

lupulinus. 2. H. (The orange Swift) alis semicirculo minuto strigâque magnâ arcuatâ argenteâ.

Hepialus lupulinus. Fab. Ent. Syst. 3. *p.* 6. 3. *Mas.*
Phalæna Noctua lupulina Lin. Faun. Suec. 1149. *Mas.*
Hepialus crux, alis rufo-luteis; lineis duabus obliquis albis, antennis serratis. Fab. Ent. Syst. 3. 7. 7. *Mas.*
Bombyx Lupulina, Hüb. Schmet. Bomb. 48. 205. 206. *Mas et Fœm.*

HABITAT Larva inter radices plantarum. Imago Aug. Ripis.
EXPANSIO alarum Mas 1 unc—3 lin. Fem. 1 unc. 10 lin.

DESCRIPTIO.

DESCRIPTIO. Maris corpus, antennæ serratæ, pedesque brunnea. Alæ anticæ griseo variæ, fasciâ obliquâ basi cinereo-argenteâ, alterâque posticâ extrorsum obliquâ itidemque argenteâ, priore fasciâ angustiore et ad marginem tenuiorem fere attingente. In loco stigmatis, macula parva obsoleta subfusca, argenteo intus semicincta. Alæ posticæ fuscæ, margine subinde fulvicante. Fœmina mare valde diversa est, at antennæ serratæ exacte ut in illo! Alæ anticæ luteo-rufæ, sæpe paulo subnebulosæ; cætera fere ut in mare at staturâ duplo majore, coloreque minus rufo.

β. major, pulchrior, magisque rufus. Maris varietas.

OBS. I know a collector of Insects, who some years since took the above H. lupulinus, and H. Crux, in copulâ, but without such an occurence, they would hardly, if ever, have been thought the same. All authors except some recent german ones, have agreed in keeping them distinct. The exact similitude of the serrated antennæ in both sexes, are alone sufficient to mislead the most experienced Lepidopterist. Another such a circumstance I cannot recollect throughout the whole history of the Phalænaceous tribes. But Nature, ever ample in her ways and means, delights occasionally to swerve from general rules.

OBS. 2. Since the above was written my acute friend the Rev. J. Burrell, has sent me a pair of this species which he found in copulâ.

H. (The beautiful Swift) alis fusco, livido, alboque variis, striga postica punctorum argenteorum, costâque fusco maculatâ. *Velleda* 3.

Bombyx Velleda. Hüb. Schmet. Bomb. 50. 212. *Mas. et* 233 *et* 234. *Fœm.*

Phalæna Noctua sylvina. Lin. Faun. Suec. 1151?

Phalæna Mappa. Don. Br. Ins. 360. 95.

HABITAT, ripis.—Aug.?

EXPANSIO alarum 1 unc. 3. lin.

OBS. The Entomological (late the Aurelian) Cabinet does not possess this species; but I have seen it in collections, by the name of Noctua sylvina Lin. the description of which it but ill accords with. Aurelians have long called it the beautiful Swift.

H. (The brown Swift) alis omnibus pallide fuscis vel fuscescentibus liturâ obliquâ medio obsoletissimâ albicante. *fuscus.* 4

Hepialus carnus. Fab. Ent. Syst. 3. 6. 6?

HABITAT Graminosis. Imago f. Mai.

EXPANSIO alarum 1 unc. 3 lin—1 unc. 7 lin.

DESCRIPTIO. Corpus subfuscum. Antennæ pedesque plus minus

minus rufescentes. Oculi nigri. Alarum anticarum litura alba, plus minus obsoleta est et subinde fere obliterata. Variat triplo minor: variat etiam strigis obscure argenteis moniliformibus.

Obs. There is the greatest imaginable difficulty in accurately determining the species of this genus; on account of their extraordinary sexual dissimilarities. So that it is possible, the present one may eventually prove to be the female of one of the subsequent species: but at present there is no sufficient authority for such a conjecture.

If Entomologists like Linnæus and Fabricius, have erred in sometimes giving the different sexes of Hepiali as distinct species: most assuredly it is no easy matter to avoid falling into similar misconceptions. Experience alone, must hereafter effectually enable us to decide. I have had females of the present one lay abundance of eggs.

Angulum. 5 H. (The tawny Swift) alis fulvis, lineâ unangulatâ albâ interruptâ.

Phalæna Noctua angulum, alis flavescentibus linea angulata alba. Villars Ent. 2. 193. 154.

Habitat Sylvaticis Imago i. Jun.

Expansio alarum 1 unc—1 unc. 2 lin.

Descriptio. Præcedente fere duplo minor. Alarum linea alba subinde obsoleta est, et interrupta marginem tenuiorem versus. Cætera pene ut in precedente, at alæ posticæ saturatiores, sive perfuscæ, ciliis fulvicantibus.

" Alæ anticæ flavescentes, linea alba quæ ad marginem tenui-
" orem angulum format." Villars. l. c.

obliquus. 6. H. (The silver Swift) alis fulvis, strigis duabus argenteis moniliformibus, divaricatissime obliquis, fuscoque tenue cinctis.

Hepialus obliquus. Fab. Ent. Syst. 3. 6. 5.

Bombyx Flina. Hüb. Schmet. Bomb. 49. 210. 211.

Habitat, pratis, Imago f. Mai.

Expansio alarum, 1 unc—1 unc 2 lin.

Descriptio. Alæ plus minus fulvæ, lineolâ medio argenteâ; strigâ obliquâ moniliformis, a basi fere ad marginem tenuiorem, alteráque etiam obliquâ, pene a medio marginis tenuioris ad apicem, ex punctis argenteis plus minus confluentibus. Subinde alia striga obsoleta punctorum fuscorum vel argenteorum juxta marginem exteriorem, ordoque punctulorum alborum in ipso margine. Cætera ut in precedente.

β. An mera sexus àlter præcedentis? alis fuscis vittâ argenteâ arcuatâ dentigerâ a basi ad apicem, strigâque punctorum argenteorum in ipso margine exteriore.

Habitat.

HABITAT. Imago f. Mai. Peridumetis.
EXPANSIO alarum 1 unc. 2 lin—1 unc. 7 lin.
DESCRIPTIO. Præcedente simillima, at costa Maris solum fulva. Lineola media alba deest in Fœminâ. Strigæ, sive vittæ argenteæ latiores sunt, at altè unidentatæ, nec interruptæ, moniliformes: nec fusco distinctè circumcinctæ. Striga obsoleta juxta marginem exteriorem deest, at striga punctorum in ipso margine adest, sed ejus puncta majora sunt & speciosiora, atque trigona.
OBS. My friend Mr. Scales has taken this variety in copulâ with the above H. fuscus: but it can only have been a *casual* occurrence: because I am almost certain I have had females of both kinds lay numerous eggs; and believe my friend Mr. Hatchett was with me at Darn at the time, and also saw such eggs deposited.

H. (The spotted silver Swift) alis argenteis fasciis tribus fuscis, costâ fulvâ. *nebulosus.* 7
Phalæna Noctua fusco-nebulosa. Villars Ent. 2. 193. 155 ?
HABITAT cum precedente, at rarior.
EXPANSIO alarum 1 unc.—2 lin.
DESCRIPTIO. Forte varietas pulcherrima præcedentis. Alæ anticæ argenteæ, costâ læte, et latius fulvâ, maculâque subquadratâ fuscâ prope basin, fulvo costæ adnatâ: tunc fasciâ medio obliquâ fuscâ ad marginem tenuiorem paulo flexâ: et denique strigis duabus posticis punctorum fuscorum rotundorum, extimâ obsoletiorâ. Ciliæ fulvæ.
β. Alis albo fulvoque variis, maculâ unicâ distinctâ disci fuscâ.
Bombyx Ganna. Hüb. Schmet. Bomb. 50. 215 ?
HABITAT. Imago f. Mai. Graminosis.
EXPANSIO alarum 1 unc. 2 lin.
DESCRIPTIO. Forte varietas præcedentis. Costa latius fulva ut in illo. Ciliæ etiam fulvæ.

γ. Alis anticis albicantibus, subnebulosis, costâ latè marginibusque fulvis.
HABITAT. Imago Graminosis apud Kensington, i. Jun. at rarissime.
EXPANSIO alarum 1 unc. 2 lin.
DESCRIPTIO. Præcedente solum differt absentiâ maculæ fuscæ disci, notarumque fulvarum. Alarum margo omnis plus minus fulvescit.
OBS. It has been remarked above, that the species of this genus are of most difficult determination. But little short of finding them in copulâ, can enable us to discriminate one sex from

from the other: and even that, in some instances will not be sufficient. Wherefore it is probable, one or more of the last enumerated Insects are sexual variations only. But until that circumstance is satisfactorily ascertained, their strong characters render it most advisable to keep them distinct. For it is better so to do, than prematurely run the risque of joining those together, which Nature has not united.

Obs. 2. Although very different in color this may possibly prove to be a variety of the male of the above H. fuscus.

lectus. 8. H. (The gold Swift) alis perfulvis, strigis tribus obliquis punctorum aureorum.

Hepialus hectus. Fab. Ent. Syst. 3. 6. 4. *Mas.*

Phalæna Noctua hecta. Lin. Syst. Nat. 2. 833. 85.—*Faun. Suec.* 1148.—*Villars Ent.* 2. 191. 150. *Mas.*

Bombyx Hecta. Hüb. Schmet. Bomb. 49. 208. 209. *Mas et Fœm.*

Hepialus Jodutta (The dingy Swift) Fab. Ent. Syst. 3. 6. 2. *Fœm?—nec Bombyx Jodutta Hüb. Schmet.*

Habitat. Imago m. Jun. Sylvaticis.

Expansio alarum 1 unc. 2 lin.—1 unc. 3 lin.

Descriptio. Maris alæ brunneo-fulvæ, strigis tribus obliquis auries, prima antica brevis moniliformis, secunda a medio marginis tenuioris ad apicem flexuosa et etiam moniliformis, irregularis et interrupta; tertia fere in ipso margine exteriore, ex punctis distinctis aureis minutis. Alæ posticæ nigricantes.

Fœmina mare omnino discrepat. Alæ anticæ cinereo-lividæ, fasciis tribus obliquis, certo situ tantum conspicuis, pallide fusco-brunneis, anterioribus duabus, ad marginem crassiorem obsoletissime bifidis. Tertia fascia est in ipso margine exteriore, at subinde deest. Fascia secunda sæpe interrupta partimque obliterata. Cætera ut in mare.

Obs. An Aurelian friend some years since, took these Insects in copulâ, wherefore, in a genus, which abounds, perhaps more than any other Lepidopterous one, in sexual disparities, there can be but little hesitation in accepting them as male and female of the same species: although the circumstance of so finding the sexes together, would have much less weight in other genera. I even know an entomologist who asserts that he once found Bombyx lubricipeda Fab. (The spotted Buff) and Bombyx erminea Lin. Tr. (The large Ermine) "*firmly united,*" cohærentes copulâ junctos. What would the produce of such an union be? Perhaps the Bombyx Urticæ of Hüb. of which I now possess an english specimen, may have had some such origin.

Obs. 2. The Baron De Geer, Villars, and Hübner, were well acquainted

acquainted with both the sexes of H. hectus; but Linnæus in his Fauna, although he therein cites De Geer, appears not to have understood them.

Obs. 3. The gold Swift flies before sun set in groves, about 4 or 5 o'clock in the afternoon, which is much earlier than the other species: and it possesses a most remarkable, and peculiar flight; moving somewhat slowly in the air, but a few feet from the ground, and sometimes, well poised on steady pinions, it attracts the eye; at other times, it has a very extraordinary vacillating motion, not unlike the pendulum of a clock; and greatly resembling the action of the parachute of the celebrated Aeronaut Garnerin, when he descended from the clouds, amidst the fears and acclamations of the wondering inhabitants of London. There are but few entomologists who have not beheld with admiration, the odd, but pleasing evolutions of the golden Swift.

7. LITHOSIA.

(THE FOOTMAN, &c.)

Fab. Ent. Syst. Supp.

CHARACTER GENERIS.

Antennæ mediocres, articulatæ, setaceæ, tenues, rarissime hirtæ.

Palpi duo breves in cantho oculorum reflexi, 2-articulati: articulo primo compresso, piloso, secundo paulo tenuiori, falcato obtusiusculo. *Fab.*

Lingua spiralis, tenuis, membranacea, thorace paulo longior. *Fab.*

Corpus gracile, clypeo brevi rotundato; alis angustis absque stigmatibus, posticis sæpe amplissimis, volatu nocturno.

Larva bombiciformis hirta.

Pupa subterranea, in tela tenuiore.

CHARACTERES SPECIERUM.

quadra. 1

L. (The large Footman) Maris alis anticis cinerascentibus, basi fulvis costâ nigrâ: Fœminæ albidis punctis duobus cyaneis.

Lithosia quadra. Fab. Supp. 459. 1. Fœm.
Phalæna Noctua quadra. Lin. Syst. Nat. 2. 840. 114. Fœm.
Noctua quadra. Fab. Ent. Syst. 3. 24. 54. Fœm.
Bombyx quadra. Hüb. Schmet. Bomb. 24. 101—102. Mas et Fœm.
Lithosia diplana β. Fab. Supp. 459. Mas.
Noctua quadra β. Fab. Ent. Syst. 3 25. Mas.
Phalæna Noctua deplana. Lin. Mant. 1. 539. Mas.—*Fab. Sp. Ins.* 2. 215. 29. Mas.

HABITAT. Larva in Pinis. Imago i. Jun. Pinetis.

EXPANSIO alarum Mas. 1 unc 9 lin. Fem. 1 unc 11 lin—2 unc.

DESCRIPTIO. Caput, oculi, palpi, antennæque atra. Thorax fulvus. Abdomen flavicans postice fulvum, ano fusco. Alæ anticæ basi fulvæ, medio late livido-fuscescentes costâ basi nigrâ, apicibus fuscis: posticæ flavæ costâ late fuscâ; omnes immaculatæ. Fœminæ, frons subflava, alæ anticæ flavæ, punctis duobus cyaneis in medio, uno in ipsâ costâ, altero

fere opposito marginem tenuiorem versus. Cætera ut in mare, at anus fulvescit.

β. Maris varietas, differt alis basi luteis, cæteroquin uniformiter, et magis saturate fuscis, nec medio pallidioribus. Anus vix fuscescit.

γ. Fœminæ varietas, differt alis anticis albidis punctis quatuor cyaneis.

L. (The dun Footman) alis anticis fuscescentibus, costâ tenue stramineâ, posticis dilutioribus tincturâ flavedinis. *griseola.* 2

Bombyx griseola, Hüb. Schmet. 23. 97.
Noctua luteolina. Prod. Lep. Brit. addenda.
HABITAT. Imago Peridumetis, aug.
EXPANSIO alarum 1 unc. 3 lin.—1 unc. 5 lin.

L. (The common Footman) alis anticis fuscis; costâ, posticisque alis luteis. *complana.* 3

Lithosia complana. Fab. Supp. 460. 3.
Noctua complana. Lin. Faun. Suec. 1153.—*Fab. Ent. Syst.* 3. 24. 53.
HABITAT. Imago i. aug. Peridumetis.
EXPANSIO alarum. 1 unc. 1. lin.
DESCRIPTIO. Caput luteum, oculi nigri, antennæ fuscæ, abdomen fuscescit ano flavo.
Pupa folliculata brunnea. Fab.

L. (The straw-coloured Footman) alis omnibus undique flavis, immaculatis. *flava.* 4.

Lithosia flava. Fab. Supp. 461. 9.
HABITAT. Imago f. aug. Sylvis.
EXPANSIO alarum—1 unc. 5 lin.—1 unc. 6 lin.

L. (The orange Footman) supra flavo-aurantia, abdomine fusco, alis anticis disco subtus latissime fusco. *aurantia.* 5.

Noctua aurantina. Prod. Lep. Brit. 13. 41.
Bombyx Aureola. Hüb. Schmet. 24. 98.
HABITAT. Imago Peridumetis, Jun? at valde infrequens.
EXPANSIO alarum Mas. 11 lin. Fœm. 1 unc. 1 lin.
DESCRIPTIO. Luteo-aurantia. Abdomen fuscum, barbâ ani fere aurantiâ. Alæ posticæ dilutiores. Subtus anticæ a basi, ultra medium disco latissime fusco, marginibus solum luteis. Antennæ, pedes, et oculi plus minus fusca.

L. (The four-spot, small Footman) alis anticis osseo-albis, punctis duobus nigris, margine luteo. *eborina.* 6.

Lithosia eborina. Fab. Supp. 462. 15.
Bombyx Eborina. Hüb. Schmet. Bomb. 24. 104.
Noctua eborina. Prod. Lep. Brit. 13. 38.
Tinea mesomella. Lin. Faun. Suec. 1362.—*Fab. Ent. Syst.* 3. 293. 25.
HABITAT. Imago m. Jul. Sylvaticis.
EXPANSIO alarum 1. unc.—1. unc. 2. lin.
DESCRIPTIO. Caput, thorax antice, antennæque lutea. Abdomen albescit, ano luteo. Alæ anticæ osseo-albæ, atque nitentes, costâ marginibusque posticis luteis; in medio punctis duobus oppositis nigris, uno costali, altero pene in margine tenuiori. Subtus exacte ut in precedente. Alæ posticæ supra fuscæ, margine utrinque omni luteo, subtus albæ.

lutarella. 7
L. (The four-spot, yellow Footman) alis flavis, punctulis obsoletis duobus nigris, posticis fuscis, omnibus margine utrinque luteo.
Tinea lutarella. Lin. Faun. Suec. 1360? *sed nec Fabricii.*
Noctua lutarina. Prod. Lep. Brit. 13. 37.
HABITAT. Imago Sylvis, aug. at rarissime.
EXPANSIO alârum 1. unc.
DESCRIPTIO. Præcedentis forte varietas. In omnibus colore excepto, satis convenit. Sed punctula nigra minora sunt, et pene obliterata. Exemplarium unicum tantum vidi.
OBS. This is perhaps merely a variety of the preceding; but it is not the Lithosia lutea of Fabricius, which has the limb, not the disk, of the anterior wings brown beneath: but it agrees well with the Linnæan description cited above; except in having 2 obsolete black puncts, which are most easily overlooked.
OBS. 2. It is the last of the true Footmen Moths of Aurelians. They are so called from the very plain and self-coloured grounds of their wings, which are often edged with yellow or buff.

irrorata. 8
L. (The dew Moth) alis luteis, anticis strigis tribus obliquis sub æquidistributis punctorum nigrorum; posticis fere impunctatis.
Lithosa irrorata. Fab. Supp. 461. 12?
Bombyx Compluta. Hüb. Schmet. Bomb. 25. 108.
Phalæna Tinea irrorella. Lin. Syst. Nat. 22. 885. 354.—*Faun. Suec.* 1361.—*Fab. Ent. Syst.* 3. 291. 18.
Sulz. Ins. tab. 23. *f.* 10.
HABITAT in Cantii compascuis. Imago Julio, at infrequens.
EXPANSIO alarum 1. unc. 3. lin.

Obs. This species is extremely local; but a considerable number of specimens were taken about twenty years ago, on a grassy common in Kent, not far from Erith, near the high road, and opposite the 18th milestone. Since that time however, I do not hear it has any where occured in Britain.

Obs. 2. Endowed as they are with wings, there is something strikingly remarkable in the locality of such Insects as the present: and it is wonderful they do not encrease and migrate more than they do. Some of them, such as Papilio Cinxia (The Glanville Butterfly), are so extremely attached to particular plants, and to peculiar situations, and places: that a collector on one side of a hedge often finds plenty, while another on the opposite side, the hedge alone intervening, cannot procure a single specimen. They appear to fly up and down, backward and forward, for a few score yards only; playing joyously at intervals, with each other: or gayly perched, sip nectar from their favourite flowers.

" Lo the bright train their radiant wings unfold.
" With *silver* fringed, and freckled o'er with *gold!*
" On the gay bosom of some fragrant flower,
" They sweetly flutt'ring, live their little hour;
" Their life all pleasure, and their task all play,
" All spring their age, and sunshine all their day."

" Where love directs, a libertine it roves,
" And courts the fair ones thro' the verdant groves."

L. (The Black Footman) atra, abdomine postice flavo, collari sanguineo. *rubricollis* 9

Bombyx rubricollis, Fab. Ent. Syst. 486. 225.—*Hüb. Schmet. Bomb. t.* 23. 94.

Noctua rubricollis. Lin. Faun. Suec. 1154.—*Lin. Syst. Nat.* 2. 840. 113.

Shæffers Icon. Ratisb. Tab. 59. *f.* 8. 9.

Habitat. Larva in Quercu. Imago Quercetis m. Jul. at infrequens.

Expansio alarum. 1. unc. 1. lin.—1. unc. 3. lin.

Descriptio. Larva pilosa, nigricans; fasciis atris, capite piceo: triangulo albo. *Fab. l, c.*

Magnitudo Ph. complanæ, sed tota atra, excepto collare sanguineo, et ventre flavo. *Lin. Faun. l. c.*

L. (The red Arches) alis miniatis strigis tribus nigris. *miniata.* 10.

Phalæna Geometra miniata. Seticornis, alis rotundatis, omnibus pallide miniatis, anticis linea undata ad basin, characteribus in

medio, et punctis versus marginem posticum nigris. Forst. Cent. Ins. 1. 75. 75.
Bombyx rosea. Fab. Ent. Syst. 485. 485.
Bombyx Rubicunda. Hüb. Schmet. Bomb. 26. 111.
HABITAT. Imago, Jun.—m. Jul. Quercetis, rarius.
EXPANSIO alarum 1. unc. 1. lin.
DESCRIPTIO. Pallide miniata, Alæ anticæ multo saturatiores, basi striga undulata nigra, altera obliqua, pone et vix pone medium, undatissima; tertiaque prope marginem posticum e punctis plerumque sex nigris distinctis.
OBS. This singular and pretty species is not *closely* allied to any other in Europe Although far from common about London, it is occasionally beat torpid, from Oaks in June and July. It is more frequent in Norfolk.
As Forster appears to have been the first who named it, (although Harris had before figured it) I have restored his most appropriate, and expressive name of miniata.

pulchella. 11. L. (The crimson Speckled) alis luteo-albidis punctis crebris sanguineis nigrisque.
Bombyx pulchella. Fab. Ent. Syst. 3. 479. 224.
Bombyx Pulchra. Hüb. Schmet. Bomb. 26. 113.
HABITAT, in Europa australiore, et in Americæ Georgiâ: atque tandem etiam in Anglia Com. Ebor.
EXPANSIO alarum 1. unc. 5. lin.
DESCRIPTIO. Alæ anticæ ex flavo-albidæ, punctis crebris subquadratis, pene seriebus arcuatis transversim dispositis, nigris sanguineisque; ciliis alternè albis et fuscis. Alæ posticæ fere niveæ, liturâ mediâ, fimbriâque interruptâ nigris, ciliis albis.
OBS. My friend W. J. Hooker, F. L. S. assures me he has seen a specimen of this most odd, and beautiful moth, which has recently been caught in Yorkshire. But the name of the Gentleman who took it has escaped my recollection. The above description was made from foreign specimens.
OBS. 2. How far it is justifiable to place it and the subsequent species in the genus Lithosia, may admit of doubt. In habit they accord, and their Larvæ have many feet. From Noctuæ they abundantly differ in their tongues and palpi: and from Bombyx in their antennæ. But it is well known to the best informed Lepidopterists, that the genera in this order, are the least settled; and consequently the worst understood, of any, in the whole circle of the entomological science.

Jacobeæ. 12. (The pink Underwing) alis utrinque anticis fuscis, linea maculisque duabus ruberrimis.

Bombyx Jacobeæ. Fab. Ent. Syst. 3. 264. 181.—*Hüb. Schmet. Bomb.* 26. 112.

Phalæna Noctua Jacobeæ. Lin. Syst. 2, 839. 111.—*Faun. Suec.* 1155.

HABITAT, in Hortulo meo frequens, in Com Ebor. rarius. Imago f. Jun.

EXPANSIO alarum. 1 unc. 7. lin.—1. unc. 10. lin.

DESCRIPTIO. Alæ posticæ sanguineæ, ad costam inæqualiter fuscæ. Ciliæ omnes nigræ.

OBS. The under surface of this species almost exactly corresponds with the upper! This in Europæan Moths, is a very rare occurrence.

The pink Underwing is so extremely tenacious of life, that it is difficult to destroy it, without spoiling its beauties. I know of no Moth of the same size that equals it in that respect.

L. (The pale-Shoulder) alis antice pallidis, postice cinereis, striga obsoleta undata fusca. *socia.* 13

Lithosia socia. Fab. Supp. 460. 6.

Tinea sociella. Fab. Ent. Syst. 3. 288. 6.

Tinea Tribunella. Hüb. Schmet. Tinea. 4. 22.

HABITAT in Hortis prope Londinum, et in Com. Ebor. Imago m. Jul. at vix frequens.

EXPANSIO alarum. 1. unc. 2. lin.

DESCRIPTIO. Caput et antennæ pallida, Alæ lucidæ anticæ basi pallescentes, ante medium strigâ obsoletâ, fuscâ, obliquâ, undatâ, et subinde sesquialterâ posticâ, ordineque punctorum nigrorum marginali. In medio alæ juxta costam puncta nigra 2-3, sive lineolæ sæpe subconfluentes. Alæ posticæ fuscescentes, profunde ciliatæ.

β. Triplo minor, alarum expansione 9 lin. in cæteris priore convenit. Capta erat apud Darn Wood, in Com. Cantii.

8. FALCARIA.

(THE HOOKTIP.)

CHARACTER GENERIS.

Antennæ maris plerumque pectinatæ.

Palpi duo breves, subulati, hirti, apicem versus sursum curvantes.

Lingua brevis submembranacea, sæpe in laciniis duabus profundissime divisa.

Corpus gracile omnino Geometrarum alis fere semper falcatis.

Larva postice acuminata et inde singulariter Lacertæformis, polypoda, at absque pedibus caudalibus.

CHARACTERES SPECIERUM.

falcula. 1. F. (The pebble Hooktip) alis glaucis undis numerosis griseis, anticis falcatis punctus tribus mediis, strigâque posticâ obliquâ ustulatis.

Bombyx falcula. Hüb. Schmet. Bomb. 11. 44. *Schæffer. Icon. Ratisb.* 64. 1. 2.

Phalæna Geometra falcataria, pectinicornis, alis falcatis glaucis: anticis undis fasciaque griseis, puncto fusco. Lin. Faun. Suec. 1224.—*Syst. Nat.* 2. 859. 202.

Phalæna falcataria. Fab. Ent. Syst. 3. 133. 16.

HABITAT in Sylvis prope Londinum, rarius. Imago m. Jun.

EXPANSIO alarum 1 unc. 4 lin.

DESCRIPTIO. "Media, Alæ glaucæ, utrinque griseo undatæ: anteriores falcatæ, striga ferruginea pone punctum majusculum fuscum." *Lin. Faun. l. c.*

β. (The pale pebble Hooktip) alis albicantibus, undis, strigâ, punctoque fuscis.

OBS. This is a Yorkshire Insect; and it is the opinion of that acute Lepidopterist Capt. Lindegren, (whose specimens are here described) that it is a distinct species. This however admits of great doubt. It is much paler than the London kind, yet agrees with the above description of Linnæus, in which the ambiguous colour he means by griseous in his works, is pretty clearly understood to be a light subrufous one; such as the ground colour of his Silpha grisea &c. such a one also I mean by griseous throughout the present work. But other authors often intend a mixed grey colour for griseous, without any rufous or ferruginous.

F. (The Oak Hooktip) alis falcatis brunneo-fulvis, strigis duabus luteis, puntoque geminato interjecto. *hamula.* 2

Bombyx Hamula. Hüb. Schmet. Bomb. 12. 46. 47.

Phalæna falcata. Fab. Ent. Syst. 3. 165. 131.

Habitat, Larva in Quercu. Imago m. Jul. Sylvis quercinis, at rarius.

Expansio alarum, Mas 1. unc. 3. lin. Fœm. 1. unc. 4. lin.

Descriptio. "Alæ falcatæ, fulvæ strigis duabus undatis luteis, inter quas puncta duo fusca, approximata. Versus apicem alæ litura fusca. Alæ posticæ dilutiores." *Fab. l. c.*

Obs. Maris alæ posticæ brunneo-fulvæ, striga media fimbriaque luteis. Fœminæ alæ omnes majores pallidioresque: posticæ luteæ, puncto antico, fasciâ mediâ abbreviatâ in margine tenuiore, strigâque posticâ obsoletâ fuscescentibus.

F. (The scarce Hooktip) alis falcatis fusco lutescentibus, strigis duabus obliquis fuscis, ad marginem crassiorem incurvatis, posticis strigâ unicâ. *uncula.* 3 * †

Bombyx Uncula. Hüb. Schmet. Bomb. 2. 45?

Habitat in Anglia. D. Swainson.

Expansio alarum. 1. unc. 5. lin.

Obs. Statura præcedentis, at paulo major.

Obs. 2. The above description, and also that for the next species, were made many years since, from specimens in Mr. Swainson's collection, which he informed me were of his own taking in England.

F. (The barred Hooktip) alis falcatis, fusco-flavis, strigis duabus ad marginem crassiorem parum incurvatis, et inter has colore saturatiore. *unguicula.* 4 *

Bombyx Unguicula. Hüb. Schmet. Bomb. 12. 48.

Phalæna cultraria. Fab. Ent. Syst. 3. 133. 17?

Habitat in Anglia. D. Swainson.

Expansio alarum. 1. unc. 3. lin.

Obs. Statura præcedentis, at minor.

F. (The scoloped Hooktip). Alis griseis undulatim erosis, strigis duabus punctoque interjecto ferrugineis. *Lacertula.* 5

Bombyx Lacertula. Hüb. Schmet. Bomb. 12. 49.

Phælæna Geometra lacertinaria. Lin. Faun. Suec. 1229.—*Syst. Nat.* 2. 60. 204.—*Fab. Ent. Syst.* 3. 135. 20.

Habitat. Larva in Betula f. Sept. Imago Betuletis, f. Mai.

Expansio alarum 1. unc. 3. lin.—1. unc. 4. lin.

Descr ptio. Alæ anticæ transversim crebre notatæ lineolis

minutis obsoletis griseis; strigis duabus mediis, obliquis, puncto interjecto medio subtus costam, sordide ferrugineis. Margo posticus saturatior ciliis brevissimis albis ustulatisque. Posticæ alæ grisescentes, puncto, strigâque subobliteratâ medio. Margo posticus saturatior, ciliis anticarum.

β. Alis absque lineolis crebris transversis. Forte species distincta.

γ. alis pallidissime ferrugineis, cæteris ut in α. *Bombyx Lacertula. Hüb. Schmet.* 12. 49.

curvula. 6. F. (The bordered Hooktip) alis griseis undulatim erosis, strigis duabus punctoque interjecto ferrugineis, posticis albidis fimbriâ luteâ.

HABITAT cum præcedente.

EXPANSIO alarum 1. unc. 4. lin.

DESCRIPTIO. Alæ anticæ omnino ut in præcedente. Posticæ albidæ puncto medio fusco; pone hoc, striga undata grisea, et pone strigam omnino luteæ, ciliis albis. Exemplarium unicum tantum vidi; antennæ desunt. An Varietas sexualis præcedentis?

flexula. 7. F. (The beautiful Hooktip) seticornis, alis emarginatis griseis: punctis duobus contiguis, fuscis inter strigas albidas.

Phalæna flexula. Fab. Ent. Syst 3. 166. 132.
Geometra, Flexularia. Hüb. Schmet. Geom. 4 19.
Phalæna Geometra sinuata. Vill Ent. 2. 334. 505.
Pyralis flexulalis. Prod. Lep. Brit. 284.

HABITAT. Imago i. Aug. Sylvis, at infrequens.

EXPANSIO alarum 1 unc. 3-4 lin.

DESCRIPTIO. Striga prima obliqua costam versus unangulata ante, secunda simillima pone medium; et inter has et marginem color saturatior, in quo striga subrepanda obsoletior. Ciliæ ustulatæ. Posticæ cinereo-fuscescentes striga pone medium pallida, punctoque obsoleto fusco supra strigam: ad marginem posticum striga alia punctorum minutorum fuscorum, ciliis fusco-griseis.

" LARVA virescens, collo, gibbo elevato, cauda acuminata, capite pedibusque rufescentibus." *Fab.* l. c.

OBS. An hujus Generis?

spinula. 8 F. (The Chinese character) alis niveis fascia abbreviata olivaceo-fusca, in qua litura tenuissima argentea.

Bombyx Spinula. Hüb. Schmet. 11. 40.
Bombyx compressus, supra. p. 110. 46.

Expansio alarum, Mas 11. lin. Fem. 1. unc. 1. lin.

Obs. Having raised the Hooktip Moths to the rank of a distinct genus, it becomes necessary to add this Insect at the end of them, as it agrees in its most singular Larva, and disaccords in little else than in wanting falcated wings.

10. NOCTUA.

Fab. Gen. Ins. 144.

(THE FULL-BODY.)

CHARACTERES GENERIS.

Antennæ plerumque setaceæ, at in *Bombyciformibus* sæpissime pectinatæ.

Lingua prælonga, spiralis, cornea, conspicua.

Palpi compressi, pilosi, apice cylindrici, nudi. Fab.

Corpus sæpissime percrassum, alis plerumque bi vel tristigmatiferis, volatu nocturno, vel partim sectione primo, celerrimè diurno.

Larva grossa 14-16-poda sæpius nuda; in tristigmatiferis subterranea radicivora.

Pupa subterranea postice attenuata, acutissima, lævis.

CHARACTERES SECTIONUM.

1. SEMILUTEAE. Thorace lævi, alis posticis plus minus luteis, fimbria nigra, volatu partim nocturno, partimque diurno celerrime; Larvis subterraneis radicivoribus.

2. LUCIDÆ. Thorace lævi, alis lucidis, et quasi oleosis; posticis sæpe tinctură cupri.

3. LANCEOLATÆ. Thorace cuculato, alis anticis lanceolatis, lineolis nigris longitudinalibus.

4. LIGNICOLORES. Thorace cristato, alis anticis sæpe angustis et varie lignicoloribus.

5. VENOSÆ. Thorace lævi, alis anticis sæpius ex rufo pallescentibus plerumque absque stigmatibus, venis denudatis conspicuis.

6. CINEREÆ. Alis plus minus cinereis rarius viridi irroratis.

   † Larvis sæpius valde hirsutis, et inde Bombyciformibus.

   †† Larvis sæpius nudis.

7. DENTISTRIGATÆ. Alis anticis striga pallida apicem versus, altè bidentata, literam W simulante.

8. CLATHRATÆ. Alis anticis venosis albo plus minus reticulatis; antennis rarius pectinatis.

9. FISSONOTATÆ. Alis anticis notâ mediâ pallidâ parvâ fissâ.

10. VIRESCENTES. Alis plus minusve viridibus, vel viridinotatis.

11. RUSTICÆ. Alis plus minus fuscis, vel cinerascentibus, inornatis, stigmatibus ordinariis plerumque duobus, antennis subinde plus minus pectinatis.

12. MINORES. Staturâ minore quam in cæteris.

13. PSEUDO-BOMBICES. Antennis sæpissime plus minus, pectinatis, alis tristigmatiferis, stigmate tertio teliformi.

† alis punctis posticis sagittatis.

†† alis absque punctis posticis sagittatis.

14. RURALES. Alis sæpius griseis, atro subtus costam plerumque signatis.

15. CASTANEÆ. Alis plus minus castaneis, vel ferrugineis.

† Abdomine supra convexo.

†† Abdomine dorso valde depresso.

16. AUREOLÆ. Alis plus minus aureis vel ferrugineis strigis fasciisve saturatioribus. Antennis ferrugineis.

17. SIMPLICES. Antennis masculinis plus minus pectinatis, alis inornatis, sæpe fere concoloribus, strigis duabus obscuris.

18. ORNATÆ. Alis sæpe angulatis, rubro luteo purpureove perpulchre notatis.

19. ARCUATO-STRIGATÆ. Alis strigis sæpe valde arcuatis.

20. RECTOSTRIGATÆ. Alis fere concoloribus, strigis rectiusculis, sæpe absque stigmatibus.

21. RETUSÆ. Corpore gracili. Alis anticis retusis, stigmatibus tribus, strigisque etiam subtribus pallidis.

22. PSEUDOGEOMETRÆ. Staturâ gracili in hoc genere, et subinde fere Geometrarum, Antennis luteis brevibus dio parum crassioribus.

CHARACTERES SPECIERUM.

1. SEMILUTEÆ. Alis posticis plus minus luteis, fimbria nigra, volatu partim nocturno, partimque diurno celerrime; Larvis subterraneis radicivoribus.

pronuba. 1. N. (The large Yellow-underwing) alis varie griseis fuscisve, posticis luteis, fimbriâ angustâ nigrâ submarginali.

Noctua pronuba. Fab. Ent. Syst. 3. 56. 155. *Hüb. Schmet. Noct.* 22. 103.

Phalæna Noctua pronuba. Lin. Faun. Suec. 1167—*Lin. Syst. Nat.* 2. 842. 121.

HABITAT, Imago ripis, Hortisque, Jun. Jul.

EXPANSIO alarum 2 unc.—2 unc. 3. lin.

DESCRIPTIO. Larva virescens: lineis dorsalibus duabus nigris interruptis. *Fab.*

Puppa nuda rubra. *Fab.*

Imago valde variat.

α. (The mixed.) Alis anticis fusco pallido griseoque variegatis, thorace antice pallido, postice fusco. Sequentibus varietatibus forte distincta.

β. (The pale.) Thorace alisque anticis plus minus hepaticis, et plerumque unicoloribus, stigmate postico fusco, maculaque parva costali juxta apicem nigra.

γ. (The dark.) Alis anticis thoraceque plus minus fuscis, et plerumque, unicoloribus, stigmatibus albido annulatis, macula costali præcedentis.

OBS. The present section is composed of a beautiful family of Moths, well known to collectors by the appropriate name of Yellow-underwings. The Larvæ feed under ground upon roots of various kinds, in gardens, and other places; often committing great damage to plants in pots, especially those of the genus Primula. In such cases, the only remedy I am acquainted with is to shake the plants out and transplant them into fresh earth. The Moths have all a short, rapid, nearly straight flight, in the day time; and most if not all of them likewise fly in the evening after the manner of other Noctuæ.

prospicua. 2 † N. (The brown-bordered Yellow-underwing.) alis subcinereis, obsolete strigatis, posticis luteis fimbria angusta fusca submarginali.

Noctua Prospicua. Hüb. Schmet. Noct. 23. 108.

HABITAT apud nos rarissime, Imago i. Aug.

EXPANSIO alarum 1. unc. 9. lin.

OBS. I have seen this alive, but possess no specimen.

N. (The Broad border) alis varie griseis vel hepaticis posticis perluteis, fimbriâ latissimâ nigrâ. *fimbria.* 3.

Noctua fimbria. Fab. Ent. Syst. 3. 59. 165.—*Hüb. Schmet. Noct.* 22. 102.

Phalæna Noctua fimbria. Lin. Syst. 2. 842. 123.

Habitat. Imago i. Jun. m. Aug. volatu pomeridiano circa Quercûs ramos et forte iterum vespere. Apud nos valde infrequens.

Expansio alarum 2 unc. 1. lin.

Descriptio. Formosa species. Alæ posticæ saturate luteæ, fimbriâ latissimâ nigrâ, ciliis perluteis. Alarum anticarum color valde variat, at strigæ posticæ pallidiores undatæ, cum stigmatibus duobus subreniformibus semper adsunt. Maris colores saturatiores quam in fœminâ.

Larva obesa, ochraceo-grisea: linea dorsali pallida stemmatibus atris: pupilla alba. Fab.

N. (The lesser Yellow-underwing) alis hepaticis punctato-strigatis, posticis perluteis, lunulâ centrali, fimbriâque submarginali nigris. *orbona.* 4.

Noctua orbona. Fab. Ent. Syst. 3. 57. 158?

Habitat in Hortis. Imago, i. Aug. volatu diurno recto, quasi casuali, et velocissimo.

Expansio alarum 1. unc. 7. lin.—1. unc. 8. lin.

Descriptio. Alæ anticæ hepaticæ, strigis duabus anticis obsoletissimis. Stigmata ordinaria in medio fuscescentia, albo marginata; pone hæc striga geminata punctorum minutorum extus arcuata, strigaque altera punctorum validiorum ad marginem ciliarem. Strigæ omnes subinde pene obliteratæ sunt.

β. alis saturatioribus vel subfuscis.

Noctua consequa. Hüb. Schmet. Noct. 23. 105?

N. (The lunar Yellow-under-wing) alis hepatico-fuscis punctato strigatis; posticis perluteis, lunulâ centrali fasciâque posticâ nigris. *subsequa* 5.

Noctua Subsequa. Hüb. Schmet. Noct. 23. 106.

Habitat cum præcedente.

Expansio alarum 8. lin.

Descriptio. Præcedenti forte varietas, differt vix, nisi in fasciâ posticarum alarum nigrâ parum angustiore, et minus terminali quam in illâ.

N. (The straw Underwing) alis griseo variis, posticis stramineis, fimbriâ fuscâ. *cytherea.* 6.

Noctua cytherea. Fab. Ent. Syst. 3. 57. 157.

Noctua Conexa. Hüb. Schmet. Noct. 23. 109.
Habitat. Imago Peridumetis. Mai. et Aug. at apud nos valde infrequens.
Expansio alarum. 1. unc. 7. lin.
Descriptio. Alæ anticæ sæpe cinerascentes, strigâ ante, alterâque albidâ undulatâ pone stigmata ordinaria; strigâque tertiâ obsoletâ etiam undulatâ juxta marginem ciliarem.
Obs. To the account of Noctua prospicua, (now printed off) imperfectly given from having casually seen it alive, may now be added, that I have seen it again; and finding it does not possess a dark lunar spot in the under-wing, suppose it will prove to be a large variety of the present article.

Janthina. 7.
N. (The lesser Broad-border) alis griseis, fusco varie fasciatis, posticis basi fimbriâque latâ nigris.
Noctua Janthina. Fab. Ent. Syst. 3. 59. 166.—*Hüb. Schmet. Noct.* 21. 100.
Phalæna domiduca. Fuesl. Arch. 3. *t.* 16.
Habitat. Imago m. Aug. Sylvis, at infrequens.
Expansio alarum 1. unc. 6. lin.
Descriptio. Larva albida, fusco undata posticeque punctis nigris Fab.
Puppa folliculata brunnea. Fab.
In medio alarum anticarum, lunulæ albæ pro stigmatibus ordinariis: et puncta tria albida postica costalia, interdum fere obliterata.

interjecta. 8.
N. (The Least Broad-border) alis sordide ferrugineis, punctato-strigatis, posticis luteis, nigro circumcinctis.
Noctua Interjecta. Hüb. Schmet. Noct. 23. 107.
Habitat. Imago Jun. Sylvaticis. Apud nos valde infrequens.
Expansio *alarum.* 1. unc. 4. lin.
Descriptio. Alæ subferrugineæ strigis variis obsoletis, alterâque posticâ geminatâ punctorum minutorum obsoletissimâ. Posticæ subtus costam fuscam, lunulâ obsoletissimâ fuscâ, ut in N. orbonâ.

Myrtilli. 9.
N. (The beautiful Yellow-underwing) alis rufo-ferrugineis, albo strigatis, posticis luteis fimbriâ latissimâ nigrâ.
Noctua Myrtilli. Fab. Ent. Syst. 3. 126. 379.—*Hüb. Schmet. Noct.* 21. 98.
Phalæna Noctua Myrtilli. Lin. Faun. Suec. 1168.—*Lin. Syst. Nat.* 2. 853. 167.
Habitat. Imago m. Jun. f. Jul. Ericetis, rarius.

Expansio

Expansio alarum 11 lin.

Descriptio. Larva nuda, viridis dorso quinque tuberculato, capite cœruleo. Fab.

Puppa brunnea, stigmatibus albis. Fab.

Imago. Alæ anticæ rufo-ferrugineæ, maculâ sesquialterâ mediâ strigisque variis undatis albis, præterea aliis fuscescentibus. Margo ciliaris fusco punctatus est. Alæ posticæ luteæ, margine omni late fusco vel nigro; ciliis luteis.

Obs. When the sun shines strong, about noon, this species takes to wing, and then performs short and jerking, but most rapid flights. It is not common, and very difficult to take.

N. (The small Yellow-underwing) alis anticis fuscis, macula strigaque albis. *albirena.* 10.

Noctua Albirena. Hüb. Schmet. Noct. 21. 99.

Habitat in Norfolciæ Ericetis, at rarissime. Exemplarium unicum tantum vidi. Communicavit ejus Captor amicus Rev. J. Burrell, F. L. S. et F. E. S. Norfolciæ Insectorum Scrutator indefessus.

Expansio alarum 10. lin.

Descriptio. Alæ anticæ fuscæ, maculâ parvâ pyriformi in loco stigmatis antici, strigâque undatâ posticâ albis. Margo ciliaris fusco punctatus. Posticæ alæ pene ut in præcedente, at fimbria nigra paulo angustior est.

2. LUCIDÆ. Alis lucidis, et quasi oleosis; posticis sæpe tincturâ cupri.

N. (The copper Underwing) alis fusco griseoque variis, posticis cupreis, costâ latissime fuscâ. *pyramidea.* 11.

Noctua pyramidea. Fab. Ent. Syst. 3. 98. 290.—*Hüb. Schmet. Noct.* 8. 86.

Phalæna Noctua pyramidea. Lin. Syst. Nat. 856. 181.

Habitat. Larva in Quercu. Imago i. Aug. Quercetis.

Expansio alarum 1. unc. 11. lin.

Descriptio. Larva nuda, viridis; linea dorsali lateribusque albis, postice conico gibba. Fab.

Puppa brunnea. Fab.

Imago. Alæ anticæ griseo fusçoque variæ, strigis undulatis albidis itidem variis, extimis ad marginem ciliarem, ex punctis distinctis vel confluentibus. In medio alæ, stigma anticum fuscum albo annulatum.

N. (The

tetra. 12. N. (The Mahogany) alis perfuscis, medio punctis tribus obsoletis nigris quatuorque costalibus albis.

Noctua tetra. Fab. Ent. Syst. 3. 21. 41.—*Hüb. Schmet. Noct.* 8. 39.

HABITAT in Hortis, atque Apiariis, sed vix frequens.

EXPANSIO alarum 1. unc. 5. lin.

DESCRIPTIO. Caput, thorax et alæ perfusca, fere nigra, atque quasi oleosa. In medio alarum puncta tria contigua obsoletissima nigra, triangulatim posita. Costa fere ad apicem punctis quatuor albis etiam obsoletissimis. Alæ posticæ livido-fuscescentes fimbriâ fuscâ.

Tragopoginis 13. N. (The Mouse) alis anticis murinis, punctis tribus medio fuscis.

Noctua Tragopogitis? Fab. Ent. Syst. 3. 112. 336.—*Hüb. Schmet. Noct.* 8. 40.

Phalæna Noctua Tragopoginis? Lin. Faun. Suec. 1189.—*Lin. Syst. Nat.* 2. 855. 177.

HABITAT prope Londinum, at rarissime. Exemplarium unicum tantum vidi.

EXPANSIO alarum 1 unc. 3 lin.

DESCRIPTIO. Murina tota. Alæ anticæ punctis tribus fuscis contiguis ut in præcedente, primo in loco stigmatis antici, duobus aliis transversis loco stigmatis postici. Alæ posticæ at in priore at multo pallidiores.

3. LANCEOLATÆ. Thorace cuculato, alis anticis lanceolatis, lineolis nigris longitudinalibus.

OBS. No tribe of Insects can be more difficult to understand in the winged state, than the six first species of the present Section. Four of them I have taken, and have had the other two; one of which is figured by Donovan; but his figures, in such approximating species, it is quite impossible to ascertain: those of the accurate Hübner alone, have been able to guide us through the dark. Wherefore, in the present intricacy of these Moths, all possible caution is used to avoid falling into error; and their descriptions are extracted from the pages of Linnæus and Fabricius.

umbratica. 14. N. (The large pale Shark,) crista, alis deflexis striatis canis; macula centrali ferruginea: punctis duobus nigris.

Noctua

Noctua umbratica. Fab. Ent. Syst. 3. 112. 368.——*Hüb. Schmet. Noct.* 54. 263.
Phalæna Noctua umbratica. Lin. Faun. Suec. 1184.—*Lin. Syst. Nat.* 849. 150.
HABITAT. Larva in Soncho oleraceo. Imago, m. Jul. Septis.
EXPANSIO alarum 2. unc.
DESCRIPTIO. Larva nuda, nigricans, trifarie rubro punctata, cauda acuminata. Fab. l. c. Imago. Alæ superiores fere lanceolatæ et quasi ex striis compositæ. Thoracis valvulæ vel connivent supra thoracem, vel reflexæ supra oculos, tamquam duæ lunulæ antrorsum hirtæ. Lin. l. c.

N. (The Chamomile Shark,) cristata, alis deflexis striatis canis: punctis duobus centralibus minutissimis nigris, subtus immaculatis. *Chamomillæ.* 15.
Noctua Chamomillæ. Fab. Ent. Syst. 3. 121. 365.—*Hüb. Schmet. Noct.* 54. 264.
HABITAT in Chamomilla, flores excedens, Dom. Schieffermyller. Imago Jul. Septis.
EXPANSIO alarum 1. unc. 10. lin.
DESCRIPTIO. Larva nuda cinerea utrinque lineolis duabus incurvis ferrugineis in singulo segmento. Junior flavo albaque maculata. Fab. l. c.
Imago. Nimis affinis N. umbraticæ vix distinguenda at larva diversissima, Caput fuscum strigis cinereis. Thorax hirtus, cinereus striga antica, marginali, nigra. Abdomen griseum basi fasciculis aliquot dorsalibus. Alæ anticæ supra striatæ, canæ in medio punctis duobus hirsutissimis costaque punctis tribus cinereis. Subtus cinereæ punctis tribus costalibus, albis. Posticæ striatæ, cinereæ ciliis albis, subtus immaculatæ lunula parva, centrali, fusca. Fab. l. c.

N. (The Tansy Shark,) cristata alis deflexis striatis canis: lineis duabus atris, posticis albis subtus immaculatis. *Tanaceti.* 16.
Noctua Tanaceti. Fab. Ent. Syst. 3. 121. 366.—*Hüb. Schmet. Noct.* 54. 265.
HABITAT in Tanaceti vulgaris floribus, Dom. Schieffermyller. Imago Jul. Septis.
EXPANSIO alarum. 1. unc. 11. lin.
DESCRIPTIO. Larva nuda, cinerascens, nigro punctata flavoque lineata similis larvæ N. Verbasci. Fab. l. c. Imago. Affinis N. Chamomillæ. Antennæ ferrugineæ basi albidæ. Caput cinereum. Thorax cinereus striga antica fusca. Abdomen basi albidum. Alæ anticæ striatæ, canæ lineola a basi fere ad medium ductâ, et alia in medio breviore, apice parum flexa. Puncta tria costalia, Subtus obscuræ nitidæ.

Posticæ

Posticæ albæ supra margine nigricante, subtus immaculatæ. Fab. l. c.

Lactucæ. 17. N. The Lettuce Shark,) cristata alis deflexis striatis canis fusco obsolete undatis, subtus fuscis: posticis disco albo.
Noctua Lactucæ Fab. Ent. Syst. 3. 122. 367.—*Hüb. Schmet. Noct.* 54. 264.
HABITAT in Lactuca sativa. Dom. Schieffermyller. Imago Jul. Sepimentis.
EXPANSIO alarum 2. unc. 2. lin.
DESCRIPTIO. Larva atra annulis lateralibus albis lineaque dorsali, maculari, fulva, capite atro: linea antica bifida, alba. Fab. l. c.
Imago. Summa affinitas N. umbraticæ. Striga antica thoracis interrupta. Alæ striatæ undis aliquot fuscis at absque punctis centralibus costalibusque, subtus fuscæ basi margineque pallidæ punctis tribus costalibus, albidioribus. Posticæ fuscæ disco albicante. Fab. l. c.

lucifuga. 18. N. (The large dark Shark) cristata, alis deflexis striatis, fusco canescentibus, posticis fuscis, fimbriâ saturatiore.
Noctua lucifuga. Wien. Verz. 312. 11.—*Hüb. Schmet. Noct.* 54. 262.
HABITAT. Imago Jul. Septis.
EXPANSIO alarum. 2 unc.

fissina. 19. N. (The twin-tailed Shark) cristata, alis deflexis striatis, fusco nubilosis, posticis fuscis, caudæ barbâ bifidâ.
Noctua fissina. Prod. Lep. Brit. 12. 23.
HABITAT. Imago Septis, m. Ap. at valde infrequens.
EXPANSIO alarum 1. unc. 6. lin.—1. unc. 7. lin.
OBS. This species when named in the Prodromus was unique, there being but the specimen of it which I took at Brompton, known. Since that time however, I have seen three more, all taken in the month of April, yet not in the same year. But for its cloven tail, which seems a peculiar characteristic, this insect might be thought the same as N. lucifuga, although it is of smaller size: and indeed, Mr. Donovan, author of "The Natural History of "British Insects," even thinks it is not distinct from N. umbratica! Nevertheless, there is no doubt of its being far more so than N. chamomillæ, N. Tanaceti, or N. Lactucæ, are from that species.
OBS. 2. The above six moths appear to differ infinitely more in the Larva, than they do in the Imago state. The last species

species excepted, they are not considered as rare: yet cannot be deemed common.

N. (The Mullein) alis denticulatis, fusco-nigris, plagâ latissimâ albidâ. *Verbasci.* 20.

Noctua Verbasci. Fab. Ent. Syst. 3. 120. 363.—*Hüb.* Schmet. *Noct.* 55. 266.

Phalæna Noctua Verbasci Lin. Faun. Suec. 1186.—*Lin. Syst. Nat.* 2. 850. 153.

HABITAT. Larva in Verbasco Jul. Pupa sub terra, in folliculo terreno. Imago m. Mai. Hortis.

EXPANSIO alarum 1. unc. 10 lin.

DESCRIPTIO. In medio marginis tenuioris alarum anticarum litura alba fig. 3. vel epsilon græcorum simulans. Alæ posticæ albæ, fimbriâ latissimâ nigrâ; at in fœminâ omnino nigræ.

OBS. Although the Mullein Moth is very common in my garden, and elsewhere, in the larva state; I never yet saw, or even heard of any specimen of it which was taken on the wing. So that it probably does not fly until it is too dark for us to perceive it.

N. (The Water Betony) alis denticulatis ochraceis margine crassiori tenuiorique brunneo-fuscis. *Schrophulariæ.* 21.

Noctua Schrophulariæ. Hüb. Schmet. Noct. 55. 267.

HABITAT in Schrophularia Aquatica, et subinde etiam in Verbascis, Larva Jun.—Imago i. Ap. Hortis.

EXPANSIO alarum 1. unc. 11 lin.

DESCRIPTIO. Precedenti nimis affinis et forte eadem, at paulo major, magisque lutescens; marginibus anticarum fuscis tincturâ flavedinis, nec fere nigris. Posticæ alæ maris, albidæ nec albæ, fimbriâ fuscâ nec nigrâ; Fœminæ fuscæ, basi, et abdomen versus, latissime albidæ, tincturâ flavedinis. Abdominis latera in utroque, certo situ auro nitentia.

OBS. As the great Lepidopterist Hübner, gives the Water Betony Moth as a distinct species from that of the Mullein, and figures both as above cited; it is here also enumerated, as I possess English specimens of each, and have seen others. But unless they differ more in the larva state, than they do in the winged, which is almost a constant characteristic in this Section, I must still conceive they are not distinct, but very slight variations only. The chief difference is the paler colour of Schrophulariæ, whose upper wings, especially in the broad plaga, are of an ochraceous colour, as figured by Hübner, while those of Verbasci are nearly white in the same part.

N. (The

Asteris. 22. N. (The Starwort) alis anticis integerrimis, brunneo-fuscis, plagâ latissimâ albidâ.

Noctua Asteris. Fab. Ent. Syst. 3. 121. 364.—*Hüb. Schmet. Noct.* 53. 260.

HABITAT in Hortis, at valde infrequens.

EXPANSIO alarum 1. unc. 11. lin.

DESCRIPTIO. Præcedentibus duabus, simillima, atalia. Sed vix differt nisi in margine integerrimo omnium alarum, qui, in præcedentibus semper denticulatus est. Alæ posticæ, magis saturatiores sunt in fœminâ, quam in mare.

Primo communicavit Rev. J. Burrell.

Absinthii. 23. N. (The Wormwood) cristata alis deflexis canis; fasciis punctisque in tetragonum positis nigris.

Noctua Absinthii. Fab. Ent. Syst. 3. 88. 261.—*Hüb. Schmet. Noct.* 53. 253.

Phalæna Noctua Absinthii. Lin. Faun. Suec. 1182.—Lin. Syst. Nat. 2. 845. 133.

HABITAT. Larva in Absinthiis. Imago Absinthetis, i. Jul.

EXPANSIO alarum 1. unc. 7. lin.

DESCRIPTIO. Larva viridis: maculis flavis rufisque lineata. Fab. l. c. Puppa folliculata, brunnea, antice viridis. Fab. l. c.

Imago. Alæ posticæ albicantes, fimbriâ fuscâ. Superiorum alarum pene in margine postico ordo punctorum nigrorum.

OBS. Except a few specimens taken by my friend Dr. Skrimshire, it does not appear that this Moth has been found in England for the last thirty years! And it is further remarkable, that the Aurelians about thirty years since, not only found the Wormwood Moth in plenty near London, but also various other species in equal quantities, hardly one of any of which have since occurred!

This can only be accounted for, by the extreme locality of such species, and by supposing that the only habitats we yet know for them, may have been altered, or destroyed, by our progressive improvements and extension of agriculture and gardening.

4. LIGNICOLORES. Alis anticis sæpe angustis, et varie lignicoloribus.

exoleta. 24. N. (The large Sword-Grass) thorace cristato-quadrato, alis angustis convolutis, fusco, griseo, cinereoque nebulosis.

Noctua

Noctua exoleta. Fab. Ent. Syst. 8. 119. 361.—*Hüb. Schmet. Noct.* 50. 244.

Phalæna Noctua exoleta. Lin. Faun. Suec. 1185.—*Lin. Syst. Nat.* 2. 849. 151.

HABITAT. Imago Mai.—et m. Oct. Hortis, at infrequens.

EXPANSIO alarum 2. unc.—2. unc. 2. lin.

DESCRIPTIO. Thorax antice griseus, dorso fusco. Abdomen griseum dorso apicem versus etiam fusco. Alæ anticæ præ-longæ, angustæ, striatæ, lignicoloratæ, margine postico fusco. Stigmata ordinaria magna, anticum singulariter ampullæforme, posticum rusticè auriforme, et fusco radiato externè adnatum. Posticæ alæ, fuscæ, ciliis pallidis.

N. (The light Arches) cristata, alis deflexis dentatis cinereis, fusco-maculatis; margine postico fusco. F. *lithoxylea.* 25.

Noctua lithoxylea. Fab. Ent. Syst. 3. 123. 371.—*Hüb. Schmet. Noct.* 49. 240, at magis ferruginea.

HABITAT. Imago i. Jul. Septis, vix frequens.

EXPANSIO alarum. 1. unc. 11. lin.

DESCRIPTIO. Corpus longum atque crassum ani maris barbâ magnâ. Antennæ ferrugineæ. Alæ pallidæ nebulis aliquot fuscescentibus et quasi exustæ, costâ punctis albidis fuscisque. Margo posticus etiam at irregulariter fuscescit. Ordo geminatus punctorum minutissimorum fuscorum in medio, externè arcuatus. Alæ posticæ pallidæ, lunulâ mediâ fimbriâque fuliginosis, venis et punctis in ipso margine fuscis, ciliis pallidis.

N. (The clouded-bordered Brindle) spirilinguis cristata, alis glaucescentibus: fasciâ ferrugineâ abbreviatâ terminalique plicatâ. Lin. *hepatica.* 26.

Noctua hepatica. Fab. Ent. Syst. 3. 112. 337.—*Prod. Lep. Brit.* 18. 153.

Noctua epomis Marsh. M.S.

Noctua epomina Prod. Lep. Brit. 18. 156.

Phalæna Noctua hepatica. Lin. Faun. Suec. 1209.—*Lin. Syst. Nat.* 2. 853. 169.

HABITAT. Imago m. Jul. Peridumetis infrequens.

EXPANSIO alarum 1. unc. 7. lin.—1. unc. 8. lin.

DESCRIPTIO. Thorax pene ut in præcedente. Abdomen dorso fusco cristato. Alæ anticæ subintegræ, glaucæ, sive pallidè hepaticæ, atomis nebulisque variis; basi lineola fusca spinæformis, vel cuneata, versus marginem interiorem, extrorsum atque deorsum spectans. Stigmata ordinaria in medio; pone hæc, striga geminata obsoleta punctorum minutissimorum, et fascia irregularis interrupta in

margine postico, quæ maculas cuneiformes exserit. Margo ipse posticus fusco punctatus. Alæ posticæ ut in præcedente.

OBS. When Prod. Lep. Brit. was printing, the best Lepidopterists in England supposed this species was distinct from N. hepatica, Lin. but I have now reason to believe they are the same.

epomidion. 27. N. (The clouded Brindle) alis griseo fuscoque variis strigis tribus pallidioribus obsoletis dentatis.

Noctua epomidion. Marsh. M. S.

Noctua epomidina. Prod. Lep. Brit. 18. 157.

HABITAT. Imago i. Jun. Peridumetis, at infrequens.

EXPANSIO alarum 1. unc. 4. lin.

DESCRIPTIO. Præcedenti simillima, at distincta; lineola basi anticarum alarum sæpe geminata; striga antica undulata, (subinde omnino obliterata) altera pone medium denticulata extus arcuata, et subinde quasi geminata; tertiaque juxta marginem posticum altè at irregulariter dentata, et nebulis fuscis adnata. Margo ipse posticus fusco punctatus. Alæ posticæ ut in præcedentibus.

abbreviata. 28. N. (The slender clouded Brindle) alis griseo fuscoque variis, fasciâ abbreviatâ, strigâque nigrâ concinnè dentatâ: corpore subgracili.

Noctua abbrevina. Prod. Lep. Brit. 18. 158.

HABITAT. Imago Jul. peridumetis, at rarissime.

EXPANSIO alarum 1. unc. 3. lin.

DESCRIPTIO. Præcedentibus duabus, sed precipue ultimæ valde affinis, at minor longe gracilior et rarior: nempe exemplarium unicum tantum vidi: ex Com. Ebor. Alæ ex hepaticolutescentes, vel subinde saturatiores varie nebulosæ; basi ad latus interius lineola nigra, fascia subfusca in medio costæ valde abbreviata: pone stigmata ordinaria obsoleta, striga tenuis nigra, regulariter et concinnè dentata: tunc striga altera crassior fusco-brunnea juxta marginem posticum, parum undulata; margine ipso ustulato, punctis circiter quinque pallidis; ciliis itidem ustulatis. Posticæ alæ præcedentium.

Communicavit ejus captor amicus J. Rippon, Insectorum Eboracensium Collector.

combusta. 29. N. (The dark Tawney) alis fusco-brunneis obsolete nebulosis, figura 3 vel 5 medio notatis.

Noctua Combusta. Hüb. Schmet. Noct. 79. 366.

HABITAT apud nos rarissime, tempore oblito. Exemplaria pauca tantum vidi.

Expansio alarum 1. unc. 9. lin.
Descriptio. In medio anticarum alarum stigmata ordinaria obsoleta, albido marginata, anticum ovale antrorsum valde inclinante; exterius auriforme margine albo interrupto et inde representat figuram 3 vel 5. Posticæ alæ fuscæ ciliis sub-flavicantibus.
Primo communicavit ejus captor amicus Gul. Skrimshire. F. E. S. Entomologus acutus.

N. (The tawny Pinion) alis anticis subnebulosis, extus cinereo-brunneis, intus brunneo-fuscis. *semi-brunnea.* 30.
Noctua brunnina. Prod. Lep. Brit. 12. 24.
Habitat. Imago Septis at infrequens tempore oblito.
Expansio alarum 1 unc. 7 lin.
Descriptio. Præcedenti valde affinis. Alæ anticæ costam versus dimidiatim cinereo-brunneæ, vel rufo-cinereæ, sed latus interius versus omnino brunneo-fuscæ, sive pene ustulatæ. Undique at supra obsolete striatæ, atque paululum nebulosæ. Posticæ alæ præcedentium.
Obs. Having lately received one of Hübner's figures, called Noctua brunnea, I have altered this to semibrunnea.

N. (The tawny Shoulder) alis fuscis, postice, costæ basi, stigmatibusque rufo-cinereis, *subterranea.* 31.
Noctua subterranea Fab. Ent. Syst. 3. 70. 200.
Habitat frequens in Americâ, Georgia, et nunc etiam in Anglia, amico J. Hatchett semel et nuperrime capta.
Expansio alarum.
Descriptio. Statura præcedentis at paulo major. Costa late cinereo-grisea, maculâ magnâ fuscâ juxta apicem. Stigmata ordinaria exigua grisea, (exterius subulatum) per lineolas duas subconfluentes nigras juncta. Alæ posticæ albæ certo situ lætissime sub-purpurascentes, venis marginibusque plus minus fuscescentibus.

N. (The silver Cloud) alis striatis, fusco cinereoque variis, marginem tenuiorem versus albicantibus. *conspicillaris.* 32.
Noctua Conspicillaris. Hüb. Schmet. Noct. 4. 236.
Phalæna conspicillaris. Lin. Faun. Suec. 1183?
Phalæna Leuconata. Donov. Brit. Ins. vol. 13. 453. f. 3.
Habitat apud nos valde infrequens, Imago m. Mai. Septis. Exemplaria perpauca tantum vidi.
Expansio alarum 1. unc. 6. lin.
Descriptio. Corpus pergrossum. Thorax canus, sive albidus, cinereo subfasciatus. Alæ anticæ obsolete striatæ, saturate

rate cinereæ. Stigmata tria ordinaria: anticum annuliforme nigrum pupillo atro: posticum reniforme, sed imperfectum: tertium claviforme: omnia margine solum conspicua. Versus latus interius alæ plerumque albescunt. Posticæ alæ niveæ, venis margineque postico tenue nigris, ciliis albis. Alter sexus saturatior.

Pinastri. 33. N. (The Bird's-wing) alis nigris, maculâ striatâ cinereâ aquillæ alam simulante ad angulum ani.

Noctua Pinastri. Fab. Ent. Syst. 3. 101. 302.—*Hüb. Schmet* 51. 246.

Phalæna Noctua Pinastri. Lin. Faun. Suec. 1188.—Lin. Syst. Nat. 2. 851. 160.

HABITAT. Imago m. Jun. Pinetis. Septis, at infrequens.

EXPANSIO alarum. 1. unc. 5. lin.

DESCRIPTIO. Cristata, niger, vel ater, antennis subferrugineis, thoracis dorso abdomineque cinereis. Alæ superiores posticè undulatim et striatim plus minus cinereæ. Margo tenuior etiam cinerascit. Posticæ alæ fuscæ, ciliis cinereis.

putris. 34. N. (The Flame) cristata alis deflexis pallidis, costâ strigâque geminatâ punctorum fuscis.

Noctua putris. Fab. Ent. Syst. 3. 123. 370.

Noctua Lignosa. Hüb. Schmet. Noct. 50. 245.

Phalæna Noctua putris. Lin. Faun. Suec. 1187.—*Lin. Syst. Nat.* 2. 850. 152.

HABITAT. Imago, m. Jun. Ripis, Hortisque.

EXPANSIO alarum 1. unc. 5. lin.

DESCRIPTIO. Thorax antice flavicans dorso fusco. Abdomen etiam flavescit. Alæ pallidæ sive flavicantes, costâ late fuscâ. Stigmata ordinaria obsoletissima in medio; anticum fuscum orbiculare, sæpe pallido cinctum: posticum seu reniforme itidem fuscum subocellare pallido cinctum lineolâ plexâ albicante pro pupillâ. Pone hæc, linea crassa fusca subgeminata e stigmate postico ad marginem posticum ducta; strigaque geminata obliqua et postica punctulorum nigrorum. Margo ipse posticus ciliaque etiam fusco punctata. Ad angulum ani macula fusca. Posticæ alæ e luteo pallide fuscescentes, margine postico fusco punctato, Cilia pallida vix maculata.

VENOSÆ.

5. VENOSÆ. Thorace lævi, alis anticis sæpius ex rufo-pallescentibus plerumque absque stigmatibus, venis denudatis conspicuis.

N. (The Bullrush) alis pallidis nigro striatim punctatis, venis postice albis, abdomine prælongo. *Typhæ.* 35.

Noctua Typhæ. Marsh. M.S.

Noctua Typhina. Prod. Lep. Brit. 12. 25.

Noctua Typhæ. Hüb. Schmet. Noct. 88. 415.

HABITAT. Larva et Pupa, inter Typhæ medullam: Imago m. Aug. Typhosis.

EXPANSIO alarum 1. unc. 10. lin.—2. unc.

DESCRIPTIO. Sordide subrufescens. Thorax lævis. Abdomen grande atque prælongum. Anticæ alæ venosæ, venis posticè albis, punctulis nigris obsolètè in strigas dispositis, precipue marginem posticum versus. Alæ posticæ pallidiores, sive albidæ, fimbriâ fuscescente, in medio punctum itidem subfuscum, et in margine ipso postico striga ex lunulis fuscescentibus.

OBS. The Bullrush Moth was known in England by the specific name of Typhæ, long before the above cited figure of Hübner arrived here. His letter-press concerning it, or any of the other Moths of his Schmet, we have not seen, except for some of the Tineæ and Pyralides.

N. (The large Wainscot) alis cinereo-rufescentibus, strigâ obsoletâ punctorum fuscorum; posticis fuscis. *crassicornis.* 36.

EXPANSIO alarum 1. unc. 11. lin.

HABITAT in Com. Norf. Communicavit ejus captor amicus J. Hooker. F. E. S.—Entomologus assiduus atque acutus.

DESCRIPTIO. Exemplaria duo tantum vidi. Sordide cinereo-subrufescens. Antennæ prægrandes, crassæ, hirto-pectinatæ. Abdomen pergrossum, ani barbâ magnâ lutescente. Alæ anticæ subfulvo alboque venosæ, atque cinerascentes ex punctulis minutissimis numerosissimis fuscis, absque lente vix conspicuis: punctisque aliis circiter sex majoribus posticis, in strigam arcuatam dispositis. Alæ posticæ fuscæ, ciliis lutescentibus.

OBS. This large species very much resembles fig. 396, on tab. 85 of Hübner's Noctuæ, in his Schmet, yet that figure, has slender setaceous antennæ, and is only the size of N. pallens, and has white fringes to the underwings. It must consequently be a different species.

N. (The

unipuncta. 37. * N. (The White-speck) alis rufescentibus seu griseo-atomosis, lineola obliqua fusca apicis, punctoque minutissimo albo basi stigmatis postici.
HABITAT in Anglia D. Francillon.
OBS. Præcedenti paulo minor. Stigmata ordinaria fere omnino obliterata. Exemplarium peregrinum solum possideo. Forte aliæ sectionis, nempe non venosa.

comma. 38. N. (The Shoulder-stripe Wainscot) alis cinereis lineolis nigris, venis medio posticeque albis.
Noctua comma. Fab. Ent. Syst. 3. 106. 318.
Noctua Furbida. Hüb. Schmet. Noct. 47. 328.
Phalæna Noctua comma. Lin. Faun. Suec. 1191.—*Lin. Syst. Nat.* 2. 850. 156.
HABITAT in Anglia valde infrequens. Communicavit Gul. Skrimshire.
EXPANSIO alarum 1. unc. 5. lin.—1. unc. 6. lin.
DESCRIPTIO. Subcinerea. Alæ anticæ lineâ longâ fere costali; lineolâque acutâ nigrâ, a basi ad medium ductâ, adjacente longiori graciliorique albæ, quæ ultima lineola terminat in punctum album nigro adnatum, et trifurcationem nervæ principis, in loco stigmatis postici. Nervæ omnes posticè albæ sunt, lineolis nigris fuscisque interjectis. Posticæ alæ fuscæ basin versus albicantes.
OBS. Noctua L. Album. Fab. et Hüb. vix. differt.

fuligosina. 39. N. (The smokey Wainscot) alis anticis pallidis, venis postice albis: posticis fuliginosis.
Noctua fuligosina. Prod. Lep. Brit. 12. 28.
Noctua Obsoleta Hüb. Schmet. 48. 233.
HABITAT Imago f. Jul. Sepibus, frequens.
EXPANSIO alarum 1. unc. 5. lin.
DESCRIPTIO. Alæ anticæ pallidæ sive subrufescentes punctis tribus minutis, et fere obliteratis nigris, triangulatim positis. Margo ipse posticus etiam punctis nigris minutis notatus. Posticæ alæ fuscescentes, sive fuliginosæ, lunulâ mediâ obsoletâ saturatiore, ciliis pallidis.
OBS. Since this was named in the Prodromus, I have received the above-cited figure of Hübner, along with those referred to for the four following species.

punctina. 40. * N. (The dotted-bordered Wainscot) venosa, tota rufescens, alis anticis ipso margine postico fusco-punctatis, posticis pallidis angulum ani versus latissime cinereis.
Noctua punctina. Prod. Lep. Brit. 13. 31.
Noctua Ectypa. Hüb. Schmet. Noct. 48. 231.

HABITAT,

HABITAT, in Anglia rarissime.
EXPANSIO alarum 1. unc. 5. lin.
OBS. Of this I have seen but two specimens, had it occurred as frequently as the last, I should have supposed its difference from that species merely a sexual one.

N. (The red Wainscot) rufescens, alis anticis venosis immaculatis, posticis (costâ exceptâ) certo situ pallide fuscescentibus. *rufescens.* 41.
Noctua rufescensina. Prod. Lep. Brit. 13. 30.
Noctua lutosa. Hüb. Schmet. Noct. 48. 232?
HABITAT. Imago f. Jul. Sepibus, Hortisque.
EXPANSIO alarum 1. unc. 6. lin.
β. Alis certo situ lineolis 3-4 obsoletis, fuscis, posticis fuliginosis venis fuscis.

N. (The common Wainscot) alis albo-rufescentibus punctis tribus nigris, posticis albidis. *pallens.* 42.
Noctua pallens. Fab. Ent. Syst. 3. 22. 47.
Noctua pallens. Hüb. Schmet. Noct. 48. 234.
Phalæna Noctua pallens.—Linn. Syst. Nat. 2. 838. 107. Lin. Faun. Suec. 1175.
HABITAT. Imago, m. Jul. Sepibus, Hortisque.
EXPANSIO alarum 1. unc. 5 lin.
DESCRIPTIO. Præcedentis forte mas. Thorax alæque anticæ venosæ, pallidissime rufescentes, punctis tribus minutissimis nigris, vix posticis, triangulatim dispositis. Abdomen alæque posticæ albidæ, sive certo situ pallidissime fuscescentes.

N. (The powdered Wainscot) thorace, alisque anticis canis, abdomine alisque posticis albissimis. *atomina.* 43.
Noctua atomina. Prod. Lep. Brit. 13. 32.
Noctua Degener. Hüb. Schmet. Noct. 81. 380.
HABITAT. Larva in Carice f. Jul. Imago m. Jun. paludibus, at rarissime. Primo communicavit. Gul. Skrimshire.
EXPANSIO alarum 1. unc. 6. lin.
DESCRIPTIO. Larva biuncialis crassa, fasciculis pilorum erectorum, supra flavescens maculis punctisque rufis, fuscis, nigrisque; lineâ laterali flavâ punctis brunneis interruptâ. Subtus rufescens, pedibus anticis, maculisque capitis flavonigris.
Imago. Alæ anticæ tectæ atomis minutissimis nigris, nudo oculo vix conspicuis; et certo situ lineis duabus tenuissimis longis fuscescentibus, una a basi ad medium, altera in medio.

N. (The

nervosa. 44. * N. (The tawney-veined Wainscot) alis sublanceolatis pallidis, certo situ venis fulvis, lineisque latis albidis; posticis cinereis venis fuscis.
Noctua nervosa. Fab. Ent. Syst. 3. 23. 49.
Noctua nervosa. Hüb. Schmet. Noct. 47. 326.
HABITAT in Com. Norfol. rarissime. Exemplarium solitarium tantum vidi. Communicavit ejus captor, Rev. J. Burrell. Imago. f. Aug. Ripis.

geminipuncta. 45. * † N. (The twin-spot Wainscot) alis rufo-fuscescentibus, vitta lata rufa marginis tenuioris, punctoque parvo geminato niveo loco stigmatis postici.
HABITAT in Anglia rarissime. Imago, autumno Paludosis J. Hatchett.
DESCRIPTIO. Statura et magnitudo fere præcedentis. Antennæ rufæ. Abdomen longum ut in fere omnibus hujus sectionis. Posticæ alæ fuscæ.
EXPANSIO alarum.

pygmina. 46. N. (The small Wainscot) thorace, alisque rufescentibus immaculatis, vix venosis, posticis fuscescentibus, abdomine albo.
Noctua pygmina. Prod. Lep. Brit. 13. 34.
HABITAT. Imago in Peridumetis, tempore oblito.
EXPANSIO alarum 10. lin.

6. CINEREAE. Alis plus minus cinereis, rarius viridi irroratis.

† Larvis sæpius valde hirsutis, et inde Bombyciformibus.

Aceris. 47. N. (The Sycamore) abdomine alisque anticis cinereis, striga postica dentata alba.
Noctua Aceris. Fab. Ent. Syst. 3. 107. 322.—*Hüb. Schmet. Noct.* 3. 13.
Phalæna Noctua Aceris Lin. Syst. Nat. 2. 846. 137.—*Lin. Faun. Suec.* 1179.
HABITAT. Larva in Acere Pseudo-platano, Imago f. Jun. Septis.
EXPANSIO alarum. 1. unc. 8. lin.
DESCRIPTIO. Corpus canum, atomis innumeris nigris, et inde cinereum. Alæ anticæ cano cinereæ, lineolâ basi, strigulisque

que obsoletis aliquot nigris. Stigma anticum annulare nigrum, posticum omnino obliteratum. Striga postica externè arcuata multidentata alba, externè adnata fasciolæ fuscescenti. Margo posticus albidus, venis nigris interruptus; ciliis albis sive cinerascentibus ordine punctorum nigrorum notatis. Alæ inferiores albæ, vel subinde fimbriâ pallidissime cinerascente, venis semper postice nigris. Cilia ordine punctorum fuscorum.

"Larva hirsuta: fasciculis flavis rubrisque, dorso albo nigro "maculato." Fab. l. c.

N. (The dark Sycamore) abdomine alisque anticis fuscis, striga postica dentata albicante. *infuscata.* 48.

Noctua Aceris. Hüb. Schmet. Noct. 3. 14.

Habitat cum priore.

Expansio alarum. 1. unc. 7 lin.

Descriptio. Præcedentis forte varietas, at constans: differt thorace uniformiter perfusco, nec pallide cinereo:—abdomine fusco, pube longâ albâ, nunquam pallidè cinereo. Alæ anticæ omnino fuscæ, strigis, lineolis, punctisque præcedentis: alæ posticæ ut in illâ.

ß. Alis longe saturatioribus striga postica cinerea vix dentata, sed quasi ex maculis conjunctis rhombeis composita. Forte propria species.

Obs. This is well known to collectors of Lepidoptera, by the name of the dark Sycamore: and as I have seen no intermediate specimens between it and the last; it may be proper to keep them distinct, as I have no authority for considering them sexual differences: although perhaps Hübner may, as he has figured them both under the same name, but his letterpress I have not yet seen.

In difficult cases like the present, or, of great sexual disparities, it is a smaller error to make two species out of one, for they are the more easily understood; than to confound two distinct ones together which nature has not united.

N. (The Poplar Grey) alis cinereis, stigmate antico, maculaque magna postica albidis. *megacephala.* 49.

Noctua megacephala. Fab. Ent. Syst. 3. 108. 325.—*Hüb. Schmet. Noct.* 2. 10. et 3. 11.

Habitat. Larva in Populo. Imago f. Mai?—f. Sept? Populetis.

Expansio alarum. 1. unc. 7.—1. unc. 8. lin.

Descriptio. Larva pilosa, fusca, ferrugineo maculata, capite

pite corpore latiore segmentoque postico macula sulphurea. Fab. l. c. Imago. Thorax, alæque anticæ cinereæ, strigis aliquot nigris albidisque fere obliteratis. Stigma anticum cinereum annulo nigro, et in spatio cinereo positum. Stigma posticum imperfectum, pone hoc macula magna subrotundata albida. Cætera ut in præcedente.

Rumicis. 50. N. (The Knot-grass) alis anticis fusco cinereoque variis, striga dentata literaque marginis tenuioris albis; posticis fuscis.

Noctua Rumicis. Fab. Ent. Syst. 3. 118. 358 —*Hüb. Schmet. Noct.* 2. 9.

Phalæna Noctua Rumicis. Lin. Syst. Nat. 2. 852. 164.—*Lin. Faun. Suec.* 1200.

HABITAT. Imago i. Mai. Sepimentis.

EXPANSIO alarum. 1. unc. 5. lin. 1. unc. 6. lin.

DESCRIPTIO. Larva pilosa, albo rubroque punctata: linea laterali flava. Fab. l. c.

Puppa brunnea. Fab. l. c.

Imago, fere ut in præcedente, at minor, coloribus longe saturatioribus, et maculâ albidâ posticâ alarum anticarum fere obliteratâ. Alæ posticæ fuscæ.

Euphorbiæ. 51. N. (The Spurge) alis cinereo-fuscis maculis ordinariis in aream pallescente, strigaque moniliformi cinerea.

Noctua Euphorbiæ. Fab. Ent. Syst. 3. 108. 324?—*Hüb. Schmet. Noct.* 8. 12?

HABITAT prope Londinum, rarissima.

EXPANSIO alarum. 1. unc. 5. lin.

DESCRIPTIO. Præcedente, differt strigâ moniliformi cinereâ pone stigmata, quæ alba et anguste dentata est in priore. Exemplarium unicum solum vidi. Forte mera varietas.

Ligustri. 52. N. (The Coronet) alis fuscis, annulo maculaque postica coronæformi albis.

Noctua Ligustri. Fab. Ent. Syst. 3. 102. 303.—*Hüb. Schmet. Noct.* 5. 21.

Noctua Coronina Prod. Lep. Brit. 17. 115.

HABITAT. Imago f. Jun. Truncis, at valde infrequens.

EXPANSIO alarum. 1. unc. 6. lin.

DESCRIPTIO. Thorax cinereus fusco maculatus. Abdomen subfuscum. Alæ anticæ fuscæ vel nigricantes, basin versus subinde cinerascentes strigâ undatâ geminatâ nigrâ; tunc stigma anticum rotundum fuscum, albo cinctum, alboque adnatum usque per costam: pone medium punctum album marginis tenuioris: et in posticâ parte costam versus, macula

macula magna alba in quâ linea dentata subannularis nigra, quæ macula subcoronæformis est: margo posticus cinereus, vel albidus, fusco maculatus: ciliis ordine punctorum fuscorum. Alæ posticæ fuscæ.
Primo communicavit amicus F. Skrimshire. M. D.

N. (The dark Coronet) alis fuscis, annulo maculaque postica coronæformi fuscescentibus. *coronula.* 53.
Noctua coronulina. Prod. Lep. Brit. 17. 116.
Habitat in Angliâ rarissime, tempore oblito. Exemplarium unicum tantum vidi. Communicavit ejus captor Gul. Skrimshire.
Expansio alarum. 1. unc. 6. lin.
Descriptio. Præcedenti minis affinis, at fusca, characteribus fuscescentibus sive pallide fuscis, nec albis ut in illâ. Alæ posticæ fuscæ.
Obs. This differs from the foregoing, nearly in the same manner as the abovementioned Noctua megacephala and Euphorbiæ differ: or as Noctua Aceris does from infuscata: or lastly as Noctua Psi hereunder, does from tridens.

N. (The marbled Coronet) alis fusco albo nigroque variis, litura media nigra, strigaque postica alba. *compta.* 54.
Noctua compta Fab. Ent. Syst. 3. 95. 280.—*Hüb. Schmet. Noct.* 17. 53.
Phalæna Noctua X scriptum. Sowerb. Brit. Miscel. 117. pl. 55.
Noctua variegatina. Prod. Lep. Brit. 17. 114.
Habitat in Angliâ valde infrequens.
Expansio alarum. 1. unc. 6. lin.
Descriptio, ex Exemplariis germanicis. Thorax albo nigroque varius. Abdomen fuscum. Alæ anticæ albo fuscoque variæ, nebulis nigris, basi et medio fasciatim at irregulariter magis albæ. In medio costam versus litura nigra literam N subsimulans. Juxta marginem posticum striga alba valde undulata vel dentata, quæ ad apicem expandit in maculam parvam trilobatam. Alæ posticæ fuscæ at basin versus pallescentes.
Obs. There is an excellent Entomologist, more especially in matters concerning Linnæan entomology, who conceives this to be the Phalæna Noctua polymita of Linnæus. But the specimen of that species in the Linnæan Cabinet, is not only quite distinct from the present, but altogether different from any British one I have yet seen.
Obs. 2. Since the above was printed Mr. R. Fenton, F. E. S. has favored me with an English specimen of this rare species, which he caught last summer.

N. (The

Alni. 55. N. (The Alder) alis cinereis at marginem tenuiorem versus alte nigris.

Noctua ALNI. *Fab. Ent. Syst.* 3. 89. 266.—*Hüb. Schmet. Noct.* 1. 3.

Phalæna Noctua Alni. Lin. Syst. Nat. 2. 845. 134.

HABITAT. Larva in Alno. Imago m. Jun. Alnetis, at apud nos valde infrequens. Communicaverunt ejus captores amici. Rev. J. Burrell, et Rev. R. B. Francis, F. L. S. et H. E. Strickland, Armiger.

EXPANSIO alarum 1. unc. 6. lin.

DESCRIPTIO. Larva nigra maculis dorsalibus flavis pilisque elevatis. Fab. l. c.

Imago. Thorax canus, sed ad latera niger. Abdomen subcanum. Alæ anticæ cinereæ, sed marginem tenuiorem versus late seu fere dimidiatim nigræ; lineis duabus nigerrimis, una basi, altera postica angulum ani versus, angulo ipso cinereo. Posticæ alæ albidæ. Cilia omnia ordine punctorum fuscorum.

Menyanthidis 56. N. (The light Knot-grass) alis cano-cinereis stigmatibus ordinariis distinctis, striga duplici fusca antica, alteraque postica anguste dentata cinerea literam Psi terminante.

Noctua Menyanthidis. Hüb. Schmet. Noct. 2. 6. 7.

HABITAT apud nos rarissime. Imago i. Jun. Exemplaria duo solum vidi.

EXPANSIO alarum, 1. unc, 6. lin.

DESCRIPTIO. Auricomæ, simillima, at pallidior: alis posticis nec subfuscis sed fere albidis venis postice fuscis, ciliis niveis. Linea nigra basi anticarum obsoletior, simplex, nec dentata.

similis. 57. N. (The scarce Knot-grass) alis cinereis, striga subundata atra ante medium, alia fusca obliqua abbreviata medio, tertiaque cana submoniliformi, limbi postici: posticis albidis fimbria subfusca.

HABITAT in Anglia rarissime. Exemplarium solitarium solum vidi. Imago i. Jun. apud Coomb Wood.

EXPANSIO alarum. 1. unc. 5. lin.

OBS. Præcedenti nimis affinis, sed magis cinerea seu infuscata; striga ante medium anticarum simplex et longissime saturatior pone maculam cuneiformem obscuram fuscam cinereo-cinctam. Margo posticus distinctè notatus strigâ submoniliformi albidâ sive canâ. Striga postica anguste dentata, literâ Psi terminante prioris, fere omnino obliteratâ. Posticæ alæ magis distincte subfusco fimbriatæ.

auricoma. 58. N. (The scarce Dagger) alis cano-cinereis, stigmatibus ordinariis

nariis distinctis strigaque postica dentata literam Psi terminante nigris: posticis subfuscis.

Noctua auricoma. Fab. Ent. Syst. 3. 106. 316.—*Hüb. Schmet. Noct.* 2. 8.

Habitat apud nos rarissime; exemplarium unicum tantum vidi, captum prope Londinum, tempore oblito.

Expansio alarum. 1. unc. 7. lin.

Descriptio. Thorax cinereus lineâ albâ ad latera, nigro adnatâ. Alæ anticæ cano cinereoque variæ: stigma anticum subocellare annulo nigro, fuscâ pupillâ: stigmâ exterius reniforme albo nigroque cinctum: linea dentata nigra basi; strigaque postica perdentata nigra quæ terminat in litura literam Psi simulante; costa nigro alboque punctata ut in fere omnibus hujus sectionis.

N. (The dark Dagger) cinereo-fusca, alis anticis characteribus nigris, stigmatibus ordinariis imperfectis junctis: posticis fuscis fimbria saturatiore. *Psi.* 59.

Noctua Psi. Fab. Ent. Syst. 3. 105. 315.—*Hüb. Schmet. Noct.* 1. 5.

Phalæna Noctua Psi. Lin. Syst. 2. 846. 135.—*Lin. Faun. Suec.* 1181.

Habitat. Imago f. Jun. Septis, frequens.

Expansio alarum. 1. unc. 7. lin.—1. unc. 8. lin.

Descriptio. Præcedenti simillima, at distincta, minus cinerea, stigmatibus imperfectis junctis, nigro ad juncturam semicinctis, et inde ad literam x simulantibus.

N. (The light dagger) cana, alis anticis characteribus nigris; posticis albidis fimbria pallide cinerascente. *tridens.* 60.

Noctua Psi. Fab. Ent. Syst. 3. 105. 304.—*Hüb. Schmet. Noct.* 1. 4.

Habitat. Imago f. Jun. Septis, frequens.

Expansio alarum, 1 unc. 7. lin.—1. unc. 8. lin.

Descriptio Præcedenti nimis affinis et fere eadem, at alia larva. Colores semper pallidiores sunt. Posticæ alæ albidæ vel albæ, fimbriâ fere obliteratâ paulo saturatiore, vel pallide cinerascente.

N. (The grey Shoulder-knot) alis canis nebulosis, lambda græcorum basi nigra: posticis perfuscis. *Lambda* 61.

Noctua Lambda Fab. Ent. Syst. 3. 106.—317.

Noctua Lambdina. Prod. Lep. Brit. 17. 121.

Noctua rhizolitha. Fab. Ent. Syst. 3. 124. 373.—*Hüb. Schmet. Noct.* 50. 242.

Habitat Imago. f. Oct. Septis, at infrequens apud nos.

Expansio

EXPANSIO alarum. 1. unc. 7. lin.

DESCRIPTIO. Caput et thorax cani. Abdomen subfuscum. Alæ anticæ itidem canæ lineolâ basi superne bifidâ, duabus aliis in medio nigris, nebulisque variis pallidioribus. Stigmata ordinaria distincta at obsoleta. Alæ posticæ saturate fuscæ, ciliis pallidioribus, cæteris ut in ultimâ.

leporina. 62. N. (The Miller) alis anticis albis, atomis lineolisque flexis nigris, posticis niveis.

Noctua Leporina. Hüb. Schmet. Noct. 3. 15, et 4. 16.

Phalæna Noctua Leporina. Lin. Faun. Suec. 1176.—*Lin. Syst. Nat.* 2. 838. 109.

Bombyx Leporina. Fab. Ent. Syst. 3. 453. 144.

HABITAT. Larva in Betulâ Sept.—Imago Mai. Betuletis, at valde infrequens.

EXPANSIO alarum 1. unc. 6. lin.

DESCRIPTIO. Larva valde hirsuta. Imago. Caput thorax alæque anticæ alba, vel parum cinerascentia lineola basi, punctis duobus oppositis (uno in costâ) ante medium nigris. Pone medium litura flexa majuscula nigra costalis, et alia minor opposita fere marginis tenuioris: tunc striga dentata interrupta nigra, sæpe fere obliterata. Margo posticus ordine punctorum nigrorum. Posticæ alæ nitidæ et fere albissimæ.

OBS. Mr. Donovan says in vol. 10. p. 8, of his Br. Ins. "The larva is pale or greenish white, with three longitu-" dinal stripes of brown and a few black bars across; and " that it feeds on willow and alder." One we bred from birch, was all over covered with long hoary wool-like hairs, and resembled that of N. Aceris. In miniature it was not unlike a shock dog. The Rev. J. Burrell thus describes to me this singular Larva. " Pale green covered with very long " white hairs, which bend over the body like combed hair, " and has two dorsal erect black strong hairs."

†† Larvis plerumque nudis.

flavocincta. 63. N. (The large Ranunculus) cristata, alis deflexis dentatis, fusco cinereoque variis fulvo punctatis. Fab.

Noctua flavocincta. Fab. Ent. Syst. 3. 114. 344.—*Hüb. Schmet. Noct.* 10. 46.

Phalæna Noctua tricolor Villars. Ent. 2. 282.

HABITAT. Imago f. Sept. Septis, hortisque.

EXPANSIO alarum 1 unc. 8. lin.—1. unc. 10. lin.

DESCRIPTIO. Caput et thorax cinerei. Alæ anticæ subcanæ, cinereo, fusco, fulvoque ariè, sed obscure fasciatæ, striga

strigâ undatâ posticâ sæpe obliteratâ, e punctis trigonis fuscescentibus externè fulvescentibus. Posticæ alæ albicantes, strigâ pone medium fuscâ, fimbriâque cinerascente.

N. (The small Ranunculus) alis anticis cinereis strigis punctorum fulvorum, alborumque. *Ranunculina.* 64.

Noctua Ranunculina. Prod. Lep. Brit. 17. 125.

Noctua Dysodea. Hüb. Schmet. Noct. 10. 47.

Phalæna Noctua ornata Villars Ent. 2. 280.

HABITAT. Imago Hortis, et Septis, f. Jul.

EXPANSIO alarum 1. unc. 4. lin.—1. unc. 5. lin.

DESCRIPTIO. Caput et thorax præcedentis, at minor. Alæ anticæ cinereæ; striga basi alba intus fulva, secunda ante medium etiam alba externè puncto uno alterove fulvo; tertia striga arcuata moniliformis pone medium, punctis albis fusco interne arcuatim adnatis composita. Inter ultimas strigas color subfuscus et stigmata ordinaria cinerea punctis fulvis plus minus cincta. Juxta marginem posticum ordo punctorum fulvorum, ciliis fulvis cinereisque. Posticæ alæ cinereæ, fimbriâ fuscâ.

OBS. Since this species was published in the Prodromus, I have found it to be the Phalæna Noctua ornata of Villars; and Noctua Dysodea of Hübner's Schmet. whose figure of it has but recently come to me: but as it is well known amongst us by the names of Ranunculi, and the small Ranunculus, it has been judged best to continue it.

OBS. 2. This moth, and its allies, are probably called Ranunculuses, from a fancied resemblance in some of their markings, to the double Ranunculus flower. I suppose it may be from the radiated mark near the posterior stigma.

N. (The grey Chi) alis canis, fusco, nigro, cinereoque nebulosis, Chi græcorum medio nigra. *Chi.* 65.

Noctua Chi. Fab. Ent. Syst. 3. 107. 321.—*Hüb. Schmet. Noct.* 10. 49.

Phalæna Noctua Chi. Lin. Faun. Suec. 1180.—*Lin. Syst. Nat.* 2. 846. 136.

HABITAT apud nos infrequens. Imago Jul. Septis.

EXPANSIO alarum. 1. unc. 6. lin.

DESCRIPTIO. Subcana. Alæ anticæ varie cinereo, fusco, nigroque nebulosæ. Stigmata ordinaria cana. Pone hæc, striga arcuata obsoleta albida moniliformis, alteraque similis juxta marginem posticum, interne punctis parvis nigris trigonis adnata. Alæ posticæ maris albæ, sive cinerascentes, fœminæ fere fuscæ, margine ipso postico in utroque nigro undulato.

N. (The

serena. 66. N. (The broad-barred White) alis anticis albis fascia lata fusca in medio strigis albicantibus utroque adnata.

Noctua serena. Fab. Ent. Syst. 3. 101. 301.—*Hüb. Schmet. Noct.* 11. 54.

Phalæna Noctua par. Donov. Br. Ins. 338. 3.

HABITAT. Imago m. Jun. Septis, at vix frequens.

EXPANSIO alarum. 1. unc. 2 lin.

DESCRIPTIO. Caput et thorax albi, undis nigris, vel fuscis. Alæ anticæ glauco-albæ strigis duabus interruptis ad basin, fuscis: in medio fascia magna fusca nigro albo et subfulvo utroque dentatim marginata; in medio fasciæ lituræ aliquot nigræ, et stigmata ordinaria, margine albo solum conspicua. Juxta marginem posticum striga obsoleta nigra e punctis trigonis subconfluentibus. Posticæ alæ cinereæ fimbriâ fuscâ, ciliis albis; at cilia anticarum alba sunt, ordine punctorum fuscorum.

OBS. Mr. Donovan having published the present article as "*a certainly undescribed species*" in 1801, by the name of Phalæna Noctua par, I followed his name in the Prodromus, by there calling it Noctua parina; but am now more than ever convinced that it is the Noctua serena Fab. Ent. Syst. &c.

catæna. 67. • † N. (The Brixton Beauty) alis albissimis fascia postica, maculisque duabus costalibus fusco-olivaceis, strigaque punctorum confertorum fuscorum subocellatorum marginali.

Phalæna catæna. Sow. Br. Mis. 29. t. 14.

HABITAT. Imago m. Sept. apud Brixton. prope Londinum. D. Plastead, at rarissime.

EXPANSIO alarum. 1. unc. 4. lin.

DESCRIPTIO. Antennæ fuscescentes. Caput, thorax, et pectus albissimi; occuli magni nigri; abdomen canum. Alæ anticæ fasciâ juxta apicem intus olivaceâ externè fuscescente. Maculæ duæ costales fusco-olivaceæ prima juxta basin oblonga et obliqua, extrorsum spectans; altera in medio triangularis. Posticæ albæ, tincturâ purpureâ certo situ nitentes.

albo-ater. 68. • † N. (The Nun) alis superioribus antice albis, postice, maculisque duabus costalibus atris.

HABITAT in Angliâ rarissime. In Museo D. Tinby.

EXPANSIO alarum.

DESCRIPTIO. Magnitudo H. luctuosæ. Pulcherima species et præsingularis.

OBS. This comes very near the Noctua aprica of Hüb. Schmet; and perhaps is not distinct from it. The above description

was

was made eight years ago, and I have not seen the insect since.

N. (The early Grey) alis cinereis, fascia media irregulari fusca, stigmatibus duobus ordinariis auriculæformibus interrupta. *operosa.* 69.

Noctua Operosa. Hüb. Schmet. Noct. 85. 398.

HABITAT. Imago f. Ap. Peridumetis, et Truncis.

EXPANSIO alarum. 1 unc. 4 lin.

DESCRIPTIO. Cinerea, abdomine sæpius rufescente. Alæ anticæ cinereæ fasciâ mediâ fuscâ ad marginem tenuiorem valde attenuatâ, sed ad costam nigro-punctatam vix attingente. Linea nigra a basi usque ad fasciam. In margine postico striga ex punctis quasi trigonis fuscis. Cilia cinerea ordine punctorum fuscorum et subinde etiam lunularum. Posticæ alæ fuscæ, margine ipso postico tenue at interruptim nigro, ciliis roseis.

7. DENTI-STRIGATÆ. Alis anticis fusco-cinereoque variis rarius viridi irroratis, strigâ apicem versus sæpius alte dentatâ, et literam W simulante.

N. (The grey Arches) alis albicantibus nigro varie undatis: stigmatibus magnis subocellaribus, litura prope angulum posticum nigrum. Donov. *grandis.* 70.

Noctua grandina. Prod. Lep. Brit. 17. 126.

Phalæna Noctua grandis. Donov. Br. Ins. 341. 1.

Noctua Plebeja. Hüb. Schmet. Noct. 16. 78.—*nec Linnæi.*

HABITAT. Imago f. Jun. Truncis, at infrequens.

EXPANSIO alarum. 2 unc.

DESCRIPTIO. Thorax cristatus canus, nigro undatus. Alæ anticæ canæ fusco nigro subfulvoque nebulosæ. Stigmata ordinaria magna alba, at in medio plus minus cinerea. Juxta marginem posticum striga multidentata nigra, ordineque punctorum fuscorum marginali.

OBS. When the Appendix to the Prodromus was printing, I conceived this to be the Phalæna Noctua occulta of Linnæus; but it has since appeared in two separate inspections of his Musæum, obligingly granted to me by Dr. J. E. Smith, that the following species, and not the present, is the Noctua occulta: at least it now stands so named in the

Linnæan Cabinet. Two species so nearly allied, Linnæus perhaps did not separate.

occulta. 71. ♂

N. (The great Brocade) alis deflexis fusco-nebulosis: striga inferioribusque brevioribus margine albis. Lin.

Phalæna Noctua occulta. Lin. Faun. Suec. 1203.

Noctua Bimaculosa. Hüb. Schmet. Noct. 7. 32.

HABITAT. Imago Jul.? Peridumetis, at rarissima. Exemplaria tria tantum vidi.

EXPANSIO alarum. 2 unc. 2 lin.

DESCRIPTIO. Inter Ph. rusticas nostrates facile maxima est. Alæ superiores cano-fuscoque nebulosæ; macula ovata, albida, ante reniformem cineream; Strigæ tres, albæ repandæ: prima ante maculam ovatam; secunda pone cordiformem; tertia angustissima versus marginem posticum. Alæ inferiores multo breviores, subtus cinereæ puncto arcuque nigricante, margine postico omnino albo. Lin. l. c.

OBS. Of this rare Noctua I have preferred the above Linnæan description, to a new one from my english specimen, because it is an imperfect one. It was communicated to me by my friend Mr. J. Hatchett, of Kingsland, F. L. S. who is a very assiduous, and a very successful collector of English Insects.

argentina. 72. ♂ †

N. (The silvery Arches) alis cinereo-argenteis nebulosis, strigis variis undulatis.

Noctua Hepatica. Hüb. Schmet. 16. 77. *nec hepatica. Lin.*

HABITAT apud nos valde infrequens. Exemplaria quinque solum vidi. Imago Truncis.

EXPANSIO alarum 1 unc. 10 lin.—2 unc.

DESCRIPTIO. Statura penultimæ cui simillima, alcatis differt primo intuitu, nam pulchrior est, et longe magis nitens atque argentata.

polyodon. 73.

N. (The dark Arches) cristata alis deflexis dentatis variegatis: striga postica dentata alba, thoracis crista elevata bifida. Fab.

Noctua polyodon. Fab. Ent. Syst. 3. 114. 349.

Noctua radicea. Fab. Ent. Syst. 3. 125. 377.—*Hüb. Schmet. Noct.* 17. 82.

Phalæna Noctua polyodon. Lin. Faun. Suec. 12. 19.

HABITAT. Imago f. Jun. Septis, et Hortis frequens.

EXPANSIO alarum 2 unc.

DESCRIPTIO. Corpus pergrossum. Alæ anticæ ex. fusco parum fulvicantes, nebulis variis nigris pallidisque. Stigma anticum

anticum oblongum, et valde obliquum sive subsupinum. Juxta marginem posticum striga profundissime et acutissime dentata alba, nigro interne adnata. Posticæ alæ cinereo-fuscæ, fimbriâ fuscâ, ciliis fulvicantibus.
Variat, alis minus variegatis.

N. (The green Arches) alis fulvicantibus strigis dentatis stigmatibusque tribus margine nigris. *mixta.* 74.
Noctua mixtina. Prod. Lep. Brit. 17. 128.
Noctua Herbida. Hüb. Schmet. Noct. 16. 76?
Noctua Ligustrina Prod. Lep. Brit. 15. 90. *vix distincta est.*
Habitat. Imago Peridûmetis, m. Ap. at rarissime.
Exemplaria tria tantum vidi: Communicavit ejus captor amicus Rev. J. Burrell.
Expansio alarum 2 unc.
Descriptio. Alæ anticæ pallide cinereo-fulvicantes, striga basi nigra, secunda ante medium, quæ exserit maculam ordinariam claviformem. Tertia striga geminata vix pone medium posita est. Inter ultimas strigas stigmata ordinaria nigro margine solum conspicua. Pone hæc, macula majuscula, pallidior. Juxta marginem posticum striga undata pallida fere obliterata, intus adnata punctis nigris trigonis subtribus costam versus. Posticæ alæ fusco-fulvicantes fimbriâ fuscâ, ciliis subfulvis.
Obs. I conceive the above described to be a faded specimen, and that its tawny markings once were green.

N. (The barred Arches) alis anticis fusco cinereoque variis fascia magna angulata ferruginea obscuriore, in quâ stigmata ordinaria fere obliterata, posticum magnum auriforme albicante. *satura.* 75.
Noctua Satura. Hüb. Schmet. Noct. 16. 75.
Habitat in Anglia. D. Francillon.
Descriptio. Statura præcedentis. Alæ anticæ apicem versus strigâ dentatâ albicante.
Obs. This description was made about the year 1800.

N. (The pale-shining Brown) alis cinereo-glaucis subnebulosis; strigâ posticâ ex punctis angulatis confluentibus, antennis hirto-pectinatis. *advena.* 76.
Noctua celata. Marsh. M. S.
Noctua celatina. Prod. Lep. Brit. 17. 129.
Noctua Advena. Hüb. Schmet. Noct. 17. 81?
Habitat. Imago i. Jun.—i. Jul. Hortis, at infrequens.
Expansio alarum 1 unc. 10 lin.-2 unc.

Descriptio

DESCRIPTIO. Antennæ ferrugineæ; maris aliquot hirto-pectinatæ. Alæ anticæ cinereo-fuscescentes, tincturâ argenteâ nitentes, strigis tribus, tribusque stigmatibus obsoletis pallescentibus et subinde plus minus evanescentibus. Prima striga ante, secunda pone medium; inter has stigmata duo ordinaria, et tertium claviforme, margine solum conspicua: tertia striga postica est, composita ex punctis angulatis confluentibus subfulvis, extus pallido marginatis. Margo ipse posticus strigâ tenuissimâ undatâ, ex lineolis curvatis nigris. Costa albido obsolete punctata. Alæ posticæ fuscæ strigâ marginali anticarum.

OBS. This species does not agree with the Fabrician description of Noctua advena: but there is little doubt of its being the same as Hübner's figure, although it is too highly coloured for our English specimens.

nitens, 77. N. (The Tawny and Silver) alis brunneo argenteoque variis, striga postica ex punctis angulatis confluentibus, antennis setaceis nudis.

Noctua nitensina. Prod. Lep. Brit. 17. 127.

HABITAT in Comitatu Norfolciense, at rarissima. Communicavit ejus captor amicus Rev. J. Burrell.

EXPANSIO alarum 1 unc. 10 lin.

DESCRIPTIO. Exemplarium unicum Maris solum vidi, Præcedenti nimis affinis at minor, antennis setaceis, nudis nec hirto-pectinatis, stigmateque claviformi majore. Alæ anticæ magis brunneæ et posticé magis argenteæ, stigmate reniformi inferne semicincto margine albissimo. Cætera fere ut in priore, at strigâ posticâ extus magis albâ.

OBS. This comes extremely near to Noctua Hepatica of Hüb. Schmet. 16. 17, (above described by the name of argentina) But the hepatica of Linnæus seems to be intirely distinct.

oblonga, 78. N. (The brown-pinioned Brocade) alis cinereis nebulosis, costa maculâquæ oblongâ fuscis, strigâque albâ posticâ undulatissimâ.

HABITAT prope Wisbeach, tempore oblito. Communicavit ejus captor amicus Gul. Skrimshire, F. E. S. Entomologus acutus.

EXPANSIO alarum 1 unc. 8 lin.

DESCRIPTIO. Alæ anticæ longitudinaliter semifuscæ, in quâ parte puncta costalia, apex, et stigmata ordinaria, cinerascentia. Altera pars alæ etiam cinerascit, maculâ majusculâ posticâ cuneiformi fuscâ, et aliâ in medio oblongâ marginem

ginem tenuiorem versus. Alæ posticæ albicantes, fimbriâ fuscâ; cætera ut in variis sequentibus.

N. (The gothic Brocade) alis pallide fuscescentibus nebulosis, lineolis duabus basi, arcuque medio, crassissimo nigricantibus. *remissa.* 79.

Noctua Remissa. Hüb. Schmet. Noct. 90. 423.

HABITAT, prope Londinum, at infrequens, tempore oblito.

EXPANSIO alarum 1 unc. 6-7 lin.

DESCRIPTIO. Præcedenti affinis costâ pallidiore strigâque posticâ minus dentatâ, et fere evanescente; maculâ oblongâ nigrâ superne altè fusco adnatâ et inde stigmata subcinerea arcuatim includente. Posticæ alæ fuscescentes.

β. Characteribus pallidioribus, at magis distinctis.

N. (The dingy Brocade) alis cinereo-fuscis; stigmatibus ordinariis, maculaque basi pallidioribus. *obscura.* 80.

HABITAT in Anglia rarissime.

EXPANSIO alarum.

DESCRIPTIO. Præcedenti, et sequentibus nimis affinis et forte varietas. Alæ anticæ magis obscuræ, seu fusco-cinereæ, maculâ magnâ basi costali pallidiore, lineolæ atræ internè adnatâ. Juxta marginem posticum striga obsoletissima undulata vix pallescens. Posticæ cinereo-fuscescentes.

N. (The light Brocade) alis argenteo-albis nebulosis, lineola solitaria basi, literaque I medio nigris. *rectilinea.* 81.

Noctua locuples. Marsh. M. S.

Noctua locuplina. Prod. Lep. Brit. 18. 142.

Noctua Rectilinea. Hüb. Schmet. Noct. 51. 248.

HABITAT. Imago, m. Jun. Peridumetis, at infrequens.

EXPANSIO alarum 1 unc. 7 lin.

DESCRIPTIO. A penultima differt. Pallidior, lineolâ 1, nec 2. basi nigrâ. Alæ posticæ albicantes fimbriâ saturatiore.

N. (The beautiful Brocade) thorace cano strigâ nigrâ transversâ, alis diversicoloribus fascia antrorsum obliquâ albâ interruptâ; posticè canescentibus. *dives.* 82.

Noctua dives. Marsh. M. S.

Noctua divesina. Prod. Lep. Brit. 18. 140.

HABITAT. Imago m. Jun. Truncis, at infrequens.

EXPANSIO alarum 1 unc. 7 lin.

DESCRIPTIO. Alæ anticæ nebulosæ, fusco fulvo alboque variæ: maculâ âlba costali ipso basi, alterâque anticâ majore fere marginis tenuioris: tunc fasciâ fractâ in medio antrorsum obliquâ, compositâ ex stigmate anteriore rotundo albo, maculâ bifidâ albidâ adnato; et maculâ aliâ albâ marginis tenuioris,

nuioris. Postica pars alæ pallescit vel cinerascit strigâ albâ dentatâ punctis paucis sagittatis intus adnatâ ut in aliis hujus sectionis. Alæ posticæ albidæ, nervis strigâque ipsius marginis postici fuscis.

β. Thorace cinereo striga transversa nigra, alis diversicoloribus fascia antrorsum obliqua alba interrupta, margine postico subfusco striga alba.

Noctua pulchellina. Prod. Lep. Brit. 18. 141.

Noctua Contigua. Hüb. Schmet. Noct. 18. 85. *nec N. contigua. Fab.*

HABITAT Larva in Betulâ apud Coomb Wood, f. Sept. Imago, f. Mai. Peridumetis,—Truncis; valde infrequens.

EXPANSIO alarum 1 unc. 8 lin.

OBS. This beautiful insect is, perhaps, a sexual variation only, of N. dives; but all the Brocade Moths have very nearly the same markings, which are more easily perceived than described. Its thorax and the posterior margin of its upper wings are much deeper, as are all its other characters, and with more of the bluish-blossom-like tint.

duplex. 83. N. (The dark Brocade) alis nebulosis, brunneo cinereoque variis, lineola nigra, strigis stigmatibusque pallidioribus; posticis albidis, fimbria venisque fuscis.

Noctua duplex. Marsh. M. S.

N. duplicina. Prod. Lep. Brit. 18. 139.

Noctua Convergens. Hüb. Schmet. Noct. 18. 84?

HABITAT cum prioribus, Imago m. Jun.

EXPANSIO alarum 1 unc. 8 lin.

DESCRIPTIO. Alæ anticæ strigâ ante, alterâ pone medium undatis pallidis, connexis per lineolam nigram marginem tenuiorem versus: inter has strigas, stigmata ordinaria obsoleta cinerea, et pone hæc striga postica pallida alte bidentata.

humeralis. 84. N. (The pale-shouldered Brocade) alis nebulosis brunneo-cinereis, strigis tribus albis; basi pallidis lineola nigra; posticis fuscis.

HABITAT cum prioribus.

EXPANSIO alarum 1 unc. 7 lin.

DESCRIPTIO. Præcedenti simillima, at minor, pulchrior, strigis longe pallidioribus; alis posticis fuscis; nec albidis fimbriâ fuscâ, ut in priore.

Dens-canis. 85. N. (The Dog's Tooth) alis fuscis subnebulosis, lineola basi interrupta nigra, strigaque postica bidentata alba.

HABITAT in Cantio, at valde infrequens, tempore oblito.

EXPANSIO

EXPANSIO alarum 1 unc. 4-5 lin.
DESCRIPTIO. Alæ anticæ nitidæ, fuscæ, lineolâ acutâ dentiformi nigrâ late interruptâ, basi ad medium ductâ. Stigmata ordinaria fuscescentia, et fusco cincta inter strigas duas pallescentes fere obliteratas. Striga tertia juxta marginem posticum alba, altè bidentata, utraque plus minus nigro marginata. Posticæ alæ fuscæ.
OBS. Noctuæ perspicillaris Hübneri, nec Linnæi, affinis est, at alia.

N. (The Cabbage Moth) alis fusco-cinereis nebulosissimis, stigmate reniformi strigaque bidentata postica albis. *Brassicæ.* 86.
Noctua Brassicæ. Fab. Ent. Syst. 3. 67. 189.—*Hüb. Schmet. Noct.* 18. 88. *Mas.*
Phalæna Noctua Brassicæ. Lin. Faun. Suec. 1205.—*Lin. Syst. Nat.* 2. 852. 163.
HABITAT. Imago Jun. Jul. Aug. Septis, et Hortis vulgatissima.
EXPANSIO alarum 1 unc. 7-8 lin.
DESCRIPTIO. Larva fusca vel viridis: linea dorsali obscuriore, stigmatibus albis. Fab. l. c.
Brassicas hortorum valde devastat.
Puppa brunnea. Fab. l. c.
Imago. Alæ valde nebulosæ cinerascentes, strigis irregularibus nigris, strigâque aliâ posticâ undatâ albâ. Stigma exterius reniforme, margine albo punctato. Costa punctis quatuor posticis etiam albis. Alæ posticæ fuscæ. Fæmina coloribus saturatioribus.

N. (The White-line Black) alis anticis nigricantibus, striga postica alte bidentata albicante. *albidilinea.* 87.
HABITAT in Anglia rarissime. In museo J. Hatchett. *
DESCRIPTIO. Statura et magnitudo fere N. Brassicæ. Alæ anticæ stigmatibus ordinariis, strigâque alte dentatâ juxta marginem posticum albicante, exacte ut in Noctuis vulgo dictis "Brocades." †

N. (The Dot) alis varie nebulosis, nigris, stigmate reniformi niveo, in quo lunula obtusa fulva. *Persicariæ.* 88.
Noctua. Persicariæ. Fab. Ent. Syst. 3. 111. 335.—*Hüb. Schmet. Noct.* 13. 64. *
Phalæna Noctua Persicariæ. Lin. Faun. Suec. 1208.—*Lin. Syst. Nat.* 2. 847. 142.
HABITAT Imago f. Jun. Septis.
EXPANSIO alarum 1 unc. 8 lin.
DESCRIPTIO. Larva nuda viridis: linea dorsali alba, segmento

mento quarto et quinto macula obscuriore, cauda conica. Fab. l. c. Puppa brunnea. Fab. l. c. Imago. Costa superiorum alarum punctis sex albidis, posticis tribus minoribus. Striga obsoleta punctorum minutorum fulvorum juxta marginem posticum. Posticæ alæ glauco-albidæ, fimbria nigra.

nigra. 89. * †
N. (The black Rustic) alis anticis nigris fascia lata saturatiore, stigmatibus ordinariis fere obliteratis, postico albicante, posticis albis.
HABITAT in Angliâ D. Francillon.
MAGNITUDO N. Persicariæ, at valde distincta.
OBS. This description was made in the year 1800.

Chenopodii. 90.
N. (The Nutmeg) cristata alis planis cinereis nigro maculatis; striga postica bidentata alba, thoracis crista brevi bifida, Fab.
Noctua Chenopodii. Fab. Ent. Syst. 3. 68. 192.—*Hüb. Schmet. Noct.* 18. 86.
HABITAT. Imago. Jun. Hortis, frequens.
EXPANSIO alarum.
DESCRIPTIO. Larva viridis linea dorsali obscuriore, laterali rubra. Fab. l. c. Imago. Media. Antennæ fuscæ. Caput et Thorax cinerea, immaculata. Alæ anticæ cinereæ, atomis imprimis costæ marginisque postici nigris. In medio maculæ ordinariæ. Ante marginem posticum striga cinerea, bidentata. Posticæ cinereæ apice fuscæ. Fab. l. c.
β. Pallidior, stigmate claviformi multo minore.
γ. Alis saturatioribus, striga postica obsoletiore.
Noctua infraina. Prod. Lep. Brit. 18. 136.

contigua. 91.
N. (The large Nutmeg) cristata alis planis fusco cinereoque nebulosis: striga postica bidentata alba, thoracis crista bifida. Fab.
Noctua contigua. Fab. Ent. Syst. 3. 69. 194.
Noctua Aliena. Hüb. Schmet. Noct. 94. 447.
HABITAT cum priore, at longe rarior.
EXPANSIO alarum 1 unc. 5-6 lin.
DESCRIPTIO. Nimis N. Chenopodii affinis at magis obscura. Fab. l. c.
β. Fere duplo minor, longe pallidior. Forte distincta.

lunulina. 92. *
N. (The Crescent-striped) alis fuscis strigis lunularum pallidarum.
Noctua lunulina. Prod. Lep. Brit. 19. 165.

HABITAT

HABITAT in Comitatu Cantabrigiense, tempore oblito. Communicavit ejus captor Gul. Skrimshire.
EXPANSIO alarum 1 unc. 8 lin.
DESCRIPTIO. Alæ fuscæ, vix cinerascentes strigis quatuor obsoletis pallidioribus nigro adnatis, quasi ex lunulis minutis: prima basi fere omnino obliterata, secunda undata ante, tertia arcuata pone medium; inter has lunulâ punctisque aliquot pallidis loco marginis stigmatis postici. Stigma anticum deest. Tunc striga quarta dentata fere ut in precedentibus. Ordo punctorum nigrorum minutissimorum in ipso margine postico: ciliis fuscis, at lente cinerascentibus. Alæ posticæ cinereæ fimbriâ fuscâ, strigâ in ipso margine pallidâ, ciliis albidis.

N. (The bright-line Brown-eye) alis subcastaneis striga postica bidentata alba. *oleracea.* 93.

Noctua oleracea. Fab. Ent. Syst. 3. 99. 295.—*Hüb. Schmet. Noct.* 18. 87.

Phalæna Noct. oleracea. Lin. Faun. Suec. 1197.—*Lin. Syst. Nat.* 2. 853. 171.

HABITAT. Imago f. mai, Hortis.
EXPANSIO alarum 1 unc. 7 lin.
DESCRIPTIO. Thorax alæque anticæ plus minus castaneæ, vix nebulosæ. Stigma anticum annulo albo solum conspicuum; stigmate tertio obsoleto subfusco adnatum marginem tenuiorem versus: posticum stigma fulvum. Posticæ alæ albidæ fimbriâ fuscâ.
OBS. Striga postica minus dentata in sequentibus, quam in prioribus.

N. (The Broom) alis subferrugineis, striga alba undata ad marginem posticum. *Pisi.* 94.

Noctua Pisi. Fab. Ent. Syst. 3. 93. 275.—*Hüb. Schmet. Noct.* 91. 429.

Phalæna Noctua Pisi. Lin. Faun. Suec. 1206.—*Lin. Syst. Nat.* 2. 854. 172.

HABITAT, Larva in Plantis Papilionaceis. Imago m. Jun. Septis, vix frequens.
EXPANSIO alarum 1 unc. 6-7 lin.
DESCRIPTIO. Rustica media. Alæ superiores griseo-nebulosæ, postice striga flexuosa alba, quæ ad angulum ani maculam albam majorem constituit. Lin. l. c.
OBS. Alæ posticæ maris albidæ fimbriâ fuscâ: feminæ fuscæ basin versus cinerascentes.
ß. Alis anticis fuscis striga postica interrupta alba; posticis cinereis puncto lunari medio fimbriaque fuscis, et in fimbria fascia abbreviata albicante.

OBS. Hujus varietatis Exemplarium unicum tantum vidi. Communicavit ejus captor, H. E. Strickland. Ex Com. Ebor.

basilinea. 95. N. (The rustic Shoulder-knot) cristata alis deflexis fusco griseis undatis: lineola baseos atra, thoracis crista bifida. Fab.

Noctua basilinea. Fab. Ent. Syst. 3. 125. 376.—*Hüb. Schmet. Noct.* 91. 427.

HABITAT Imago i. Jun. Sylvis, at infrequens.

EXPANSIO alarum 1 unc. 7 lin.

DESCRIPTIO. Color variat ferrugineus griseusque. Distincta tamen lineola parva, flexuosa baseos, atra. Antennæ albidæ. Fab. l. c.

unca. 96. N. (The flounced Rustic) alis pallide rufescentibus strigis duabus fasciaque marginali fuscescentibus.

HABITAT rarius, Imago, Aug. Septis.

EXPANSIO alarum 1 unc. 7 lin.

DESCRIPTIO. Antennæ hirto-pectinatæ. Alæ anticæ subnebulosæ, strigâ undatâ fractâ ante medium: tunc stigmata ordinaria fusco pallidoque imperfecte marginata: tunc striga secunda extus arcuata, ex lunulis confertis nigris pallido extus adnatis composita; et priore fascia connexa per lineolam nigram unciferam. Margo posticus undatim subfuscus apice pallido. Cilia rufo-cinerea maculis cinereo-fuscis. Posticæ albæ strigâ in ipso margine subinterruptâ fuscâ, ciliis rufescentibus.

Variat characteribus omnibus obsoletioribus.

lunato-strigata. 97. N. (The lesser flounced Rustic) alis rufescentibus nigro nebulosis, strigis duabus fasciaque marginali fuscis.

HABITAT apud nos infrequens. Imago Aug.

EXPANSIO alarum 1 unc. 4 lin.

DESCRIPTIO. Præcedenti vix differt nisi magnitudine minore, et coloribus saturatioribus, sed rarissime variat.

X. notata. 98. N. (The tawny X) alis rufescentibus macula oblonga nigra utrinque emarginata in medio, strigaque arcuata pone medium ex lunulis nigris.

HABITAT rarissime apud nos. Exemplarium unicum solum vidi.

EXPANSIO alarum 1 unc. 3 lin.

DESCRIPTIO. Præcedenti valde affinis, at magis rufescens. Antennæ hirto-pectinatæ ut in illâ, at macula media nigra diversa

divena est. Alæ posticæ albæ, apice strigâque in ipso margine fulvis.

8. CLATHRATÆ. Alis anticis venosis, albo plus minus reticulatis; antennis rarius pectinatis.

N. (The Gothic) alis omnibus fuscis, anticis albo reticulatis, stigmatibus tribus albo marginatis. *typica.* 99.
Noctua typica. Fab. Ent. Syst. 3. 99. 293.
Phalæna Noctua typica. Lin. Faun. Succ. 1195.—Villars Ent. 2. 244.
Noctua Venosa Hüb. Schmet. 13. 61.
HABITAT, Imago f. Jun. Ripis, frequens.
EXPANSIO alarum 1 unc. 7-8 lin.
DESCRIPTIO. Antennæ setaceæ. Alæ anticæ fuscæ, venis albis; striga fracta ante medium nigra, albo utraque marginata: alia striga pone stigmata etiam alba, lunulis nigris confertis antrorsum marginata. Juxta marginem posticum striga tertia ex lunulis albis confluentibus, interne punctis trigonis plus minus adnatis: tunc striga ex punctis minutis trigonis fuscis; denique striga tenuissima fusca ipsius marginis, ciliis cinereis. Prope basin maculæ duæ nigræ, alteraque quadrata nigricans inter stigmata, quarta macula parva inter hæc et marginem tenuiorem: et quinta pone stigma posticum. Posticæ alæ omnino perfuscæ ciliis cinereo-rufescentibus.

N. (The feathered Gothic). *popularis.* 100.
Bombyx popularius, supra. 117. 63.
OBS. I now possess this species, from an assiduous collector, MR. RIPPON, of York. It best arranges here.

N. (The bordered Gothic) alis fusco rufescentibus, strigis albo rufescentibus reticulatis, posticis albidis fimbria fusca. *marginosa.* 101.
Noctua typicoidina. Prod. Lep. Brit. 17. 133.
Noctua typica Hüb. Schmet. Noct. 12. 57.
HABITAT in Anglià rarissima. Exemplaria duo, solum vidi Norfolciensia. Imago Jul. med. Communicavit ejus captor Rev. J. Burrell.
EXPANSIO alarum 1 unc. 6-7 lin.
DESCRIPTIO. Præcedenti simillima at distincta, nempe longe minor, minus fusca magisque rufescens; atque posticæ alæ albidæ fimbriâ distinctissimâ fuscâ: nec omnino fuscæ. Antennæ setaceæ.

OBS.

OBS. As specific names ending in ides, have ceased to be used by the generality of Naturalists, that of typicoides for the present species is here abandoned; although a most expressive one. It originated with Mr. Marsham, and is now used in several London cabinets, not for the present article, but for Bombyx Popularis Fab. (The feathered Gothic) which I now find to be a genuine Noctua, necessary to be arranged in this section. Many other names in the Prodromus I also found in use in the London cabinets, which likewise originated with the abovementioned gentleman: such, however, are carefully cited in this work, as far as I know them: but the Prodromus being a catalogue only, did not easily admit of such acknowledgement.

Cucubali. 102. N. (The Campion) alis cinereo fuscoque variegatis stigmatibus flexo-junctis inter strigas duas geminatas læte violaceas.
Noctua Cucubali. Hüb. Schmet. Noct. 12. 56.
HABITAT, fere rarissime apud nos. Exemplaria tria prope Londinum capta, et unicum in Com. Bedfordiense amico C. Abbott. D. D. F. L. S. solum vidi.
EXPANSIO alarum 1 unc. 4 lin.
DESCRIPTIO. Alæ anticæ fuscæ paulo cinerascentes, characteribus ut supra. Stigmata gracilia divergentia, at basi flexuoso-juncta albo marginata. Striga postica dentata alba. Cilia fusca, vix cinerascentia. Posticæ fuscæ tincturâ fere lutei et marginem versus paulo saturatiores.

capsincola. 103. N. (The Lychnis) alis cinereo, fuscoque variis, strigis tribus obsoletis albicantibus; stigmatibus liberis.
Noctua Capsincola, Hüb. Schmet. Noct. 12. 57.
HABITAT. Imago i. Jun. Ripis Hortisque.
EXPANSIO alarum. 1 unc. 3 lin.
DESCRIPTIO. Præcedenti differt in stigmatibus divaricatis distinctis, nec flexo-junctis. Strigæ obsoletissimæ cinereæ vel albidæ nec lætissimè violaceæ. Cætera fere ut in ultima.

9. FISSO-NOTATÆ. Alis anticis notâ mediâ pallidâ parvâ fissâ.

Atriplicis. 104. N. (The Arrach Moth) alis subcinereis nebulosis, flavo vel viridi variegatis, macula media fissa albicante.
Noctua Atriplicis. Fab. Ent. Syst. 3. 95. 282.—*Hüb. Schmet. Noct.* 17. 83.

Phalæna

Phalæna Noctua Atriplicis. Lin. Faun. Suec. 1196.—*Lin. Syst. Nat.* 2. 854. 173.

Habitat Larva in Atriplice, Rumice.

Imago f. Jun. Sept. Hortis prope Wisbeach Com. Cant.—at infrequens. Communicavit ejus captor amicus F. Skrimshire, M.D.

Expansio alarum 1 unc. 8-10 lin.

Descriptio. Larva nuda, rufescens, albo punctata lineaque dorsali fusca. Fab. l. c.

Puppa brunnea. Fab. l. c.

Imago pulcherrima. Thorax cristatus, antice et ad latera flavo vel viridi undatim fasciatus. Alæ anticæ strigis pallidis obsoletis submoniliformibus, nigro plus minus adnatis; duabus ante, unâ pone medium, præterea quartâ undatâ albâ juxta marginem posticum, et in margine ipso strigâ ex lunulis confertis nigris, ciliis cinereis. Stigmata ordinaria lutea vel viridia, marginibus pallidioribus, anticum rotundum, posticum reniforme maximum. Alæ posticæ fuscæ fimbriâ saturatiore.

N. (The Dismal) alis subfuscis, notis duabus in medio nigris fissis. *fissipuncta.* 105.

Habitat Imago Jul? Peridumetis, vix frequens.

Expansio alarum. 1 unc. 3-4 lin.

Descriptio. Alæ pallide fuscæ subnebulosæ costâ albo punctatâ. Stigmata ordinaria obsoletissima cinerascentia, inter hæc liturâ nigrâ, aliâque longitudinali oppositâ marginem tenuiorem versus fissis. Juxta marginem posticum striga obsoleta pallescens undata, intus punctis trigonis nigris plus minus adnata. Posticæ alæ pallidiores, sive pallide fuscescentes.

β. Alis anticis nigricantibus, posticis fuscis, cæteris ut in α, at saturatioribus.

Habitat prope Wisbeach Salicetis, vespere volatu undatim velocissimo. Exemplaria duo tantum vidi, hujus varietatis.

Expansio alarum 1 unc. 6 lin.

N. (The glaucous Sheers) alis glauco fuscoque variis nebulosis, macula in medio bifida. *glauca.* 106.

Noctua Glauca. Hüb. Schmet. Noct. 87. 410.

Habitat prope Londinum, at valde infrequens, tempore oblito.

Expansio alarum 1 unc. 3-4 lin.

Descriptio. Alæ glauco-cinereæ subfulvescentes strigis tribus obsoletis pallescentibus, fusco plus minus adnatis. Stigmata

mata tria ordinaria margine fusco vel nigro solum conspicua. Posticæ fuscæ tincturâ fulvedinis. Sequenti valde affinis at distincta.

plebeia. 107. N. (The Sheers) alis cinereis arcu obsoleto nigro, in quo stigmatibus tribus cinereis.

Noctua plebeja. Lin. Mus.

Noctua Dentina Hüb. Schmet. Noct. 87. 408.

Habitat Imago f. Jun. Septis vix infrequens.

Expansio alarum 1 unc. 3-4 lin.

Descriptio. Alæ anticæ cinereæ, liturae tres nigræ transversæ basi, juxta punctum flavum marginis tenuioris. In medio quasi arcus ex maculis nigris angulatis compositus, venis albis intersectus, et albo marginatus. In centro arcûs stigmata ordinaria cinerea nigro separata, et subtus hæc, litura fissa subcinerea. Juxta marginem posticum striga dentata alba, nigro vel nigris punctis plus minus marginata; in margine ipso striga tenuis ex punctis lunato-trigonis nigris; ciliis cinereis. Alæ posticæ cinereo-fuscæ tincturâ fulvedinis; et fimbriâ fuscâ, pone strigam obliteratam dentatam albicantem.

Obs. My friend and Tutor in the delightful science of Entomology, assures me that this is the true Noctua plebeja of the Linæan Musæum.

dentina. 108. N. (The yellow-striped Sheers) alis cinereis nebulosis, macula basi, strigaque postica dentata flavis.

Noctua dentina. Fab. Ent. Syst. 3. 69. 196.

Habitat in Cantio at rarissime, tempore oblito. Exemplaria duo solum vidi.

Expansio alarum 1 unc. 3-4 lin.

Obs. As the Fabrician description of this Moth, which is very closely allied to the last, and appears to be merely a variety of it, admirably suits my specimens, it is here subjoined.

Descriptio. Alæ anticæ cinereæ in medio imprimis fuscescentes maculis ordinariis maculaque cinerea, bifida. Distincta macula marginis inferioris ad basin strigaque undata flavis. Fab. l. c.

leucostigma. 109. N. (The pale Sheers) alis cinereo-albicantibus arcu obsoleto ex maculis subfulvis composito, in quo stigmata tria albicantia, infimo fisso.

Habitat Imago f. Jun. Septis, at rarissime, prope Coomb Wood.

Expansio alarum 1 unc. 3-4 lin.

Obs.

OBS. Of the last but one, this may possibly be only a variety, as it agrees with it in almost every thing, except being much lighter coloured; and in being fulvous, or subfulvous, or rusty-flavous in every part where that is brown or black.

N. (The tawny Sheers) alis ochraceis strigis quatuor stigmatibusque ordinariis pallidis, unoque stigmate nigricante. *ochracea.* 110.

HABITAT Imago f. Jun. Septis, at valde infrequens.

EXPANSIO alarum. 1 unc. 3-4 lin.

DESCRIPTIO. Corpus alæque ochraceæ. Stigmata ordinaria albicantia, stigmate tertio claviformi plus minus nigricante. Strigæ ut in præcedentibus quatuor; una imperfecta basi, duæ ante, tertia arcuata pone stigmata, omnes moniliformes et nigro plus minus marginatæ; quarta striga undata juxta marginem posticum est et ad apicem sæpe dilatata in maculam pallidiorem; in ipso margine striga tenuis ex punctis lunato-trigonis nigris, ciliis luteis. Posticæ alæ ex albido-fulvicantes nitidæ, fimbria fusca, ciliis luteis.

N. (The brindled Green) alis viridi cinereoque variis, posticis fimbria fusca in qua striga albida. *seladonia.* 111.

Noctua seladonia. Fab. Ent. Syst. 3. 103. 308.

Noctua virensina. Prod. Lep. Brit. 15. 89.

HABITAT Imago m. Ap.—m. Oct. Peridumetis.

EXPANSIO alarum 1 unc. 4-5 lin.

DESCRIPTIO. Costa anteriorum alarum nigro multipunctata. Stigmata ordinaria, et tertia subbifida infima, pallidiora fere ut in præcedentibus. Postica pars alæ etiam paulo pallescit. Striga pallida undata juxta marginem posticum, punctis trigonis nigris variis, at in ipso margine magis regularibus. Posticæ cinereæ, fimbriâ fuscâ in qua striga albicans, margine ipso undatim nigro strigato; ciliis cinereis punctis fuscis.

ß. Omnino pallidior et pulchrior; margine tenuiore, stigmatibus tribus, fasciaque apicis albidis; strigaque alba posticarum in qua ordo punctorum fuscorum.

Noctua Protea. Hüb. 87. 406.

Merè varietas at rarissima.

HABITAT in Betula, Imago apud Coomb Wood f. Sept.

10. VIRESCENTES. Alis plus minus viridibus, vel viridi notatis.

aprilina. 112. N. (The Marvel Du Jour) alis læte viridibus lituris numerosis nigris albo adnatis, strigisque posticis duabus ex punctis nigris sagittatis introrsum cuspidatis, abdomine grosso.

Phalæna Noctua aprilina. Lin. Faun. Suec. 1178.

Phalæna Noctua aprilina. Gmel. Syst. Nat. 2561. 138.

Noctua runica Fab. 3. 102. 305.

Noctua runica Donov. Br. Ins. 354. 1.

HABITAT. Imago m. Ap. — m. Oct. Peridumetis.

EXPANSIO alarum 1 unc. 7-8 lin.

DESCRIPTIO. Thorax viridis lituris nigris. Abdomen fuscum. Alæ anticæ striga punctorum sagittatorum juxta marginem posticum, et in ipso margine striga alia simillima, at punctis minoribus. Posticæ alæ perfuscæ striga alba ad marginem posticum, sesquialtera anguli ani; ciliis albis fusco maculatis.

OBS. This is at once a plentiful, well known and beautiful insect: but it is remarkable that none of our collectors ever take it in the winged state, and very rarely in that of a Larva. The usual mode of procuring it being by digging about the roots of oaks an inch deep for the pupæ, which are annually found in that manner, in considerable numbers.

Many other species of Lepidoptera, are taken in the same way only; while some are hardly ever seen in the pupa state, although common on the wing! Still others are as yet found in no other stage, but that of a Larva.

OBS. 2. It is equally remarkable, that this species, although so common, should have been confounded by many entomologists with the following; notwithstanding their strongly differing characters. Or that Mr. Donovan after charging the confusion to Linnæus, who so *clearly defines* aprilina in his Fauna, should imprudently follow Fabricius (who sufficiently describes both species) in the disadvantageous transposal of their names.

runica. 113. N. (The scarce Marvel Du Jour) alis læte perviridibus lituris numerosis nigris albo adnatis, striga marginali ex punctis trigonis extrorsum cuspidatis, abdomine graciliori.

Phalæna Noctua runica. Gmelin. Syst. 2561. 1123. excluso synonymo Linnæi, quod ad aprilinam pertinet.

Noctua

Noctua aprilina Fab. Ent. Syst. 3. 103. 306. excluso synonymo Linnæi.
Phalæna aprilina. Donov. Brit. Ins. 347. 1.
Noctua Ludificina. Prod. Lep. Brit. 15. 87.
Obs. There are some able english Entomologists, amongst whom is my respected Tutor in this science, who consider the present article to be the Phalæna Noctua ludificæ of Lin. Faun. Suec.; and in submission to such authority, I so called it in the Prodromus. But ludifica, not to mention its yellow abdomen, and far paler wings; must be a very different species. I have never seen it.
Habitat rarissime apud nos. Imago Mai. Truncis. Exemplaria quatuor solum vidi.
Expansio alarum 1 unc. 5 lin.
Descriptio. Præcedenti similis at valde distincta. Minor, abdomine fusco graciliori, magisque cristato. Lituræ nigræ alarum longe grossiores, atque diversæ, strigâ tantum unicâ in ipso margine postico, ex punctis magis trigonis quam sagittatis, extrorsum, nec introrsum cuspidatis. Alæ posticæ fere nigræ punctis parvis albis ad angulum ani; ciliis itidem albis ordine notarum fuscarum.

N. (The Portland Moth) alis cinereo-viridibus lucidis, striga crassa undata postica rufa. *præcox.* 114.
Noctua præcox. Fab. Ent. Syst. 3. 97. 289.
Noctua Præceps. Hüb. Schmet. Noct. 15. 70.
Habitat prope Londinum rarissime, Imago 1. Mai. — f. Aug. Peridumetis, at in Insulis Portlandicis frequens.
Expansio alarum 1 unc. 7-8 lin.
Descriptio. Thorax canescens. Abdomen alæque posticæ fuscæ, tincturæ flavidinis. Anticæ virescentes subnebulosæ, stigmatibus tribus ordinariis in medio pallidioribus, inter strigas duas obsoletas submoniliformes nigro-albidas; vel albas nigro stigmata versus adnatas.
Obs. Although I have known this moth to be taken even in London, but on a flower pot, brought from the country, the Portland Islands seem the only places where it abounds with us; and there that great patroness of Natural History, the late Duchess of Portland, first found it. Of her rearing, I have possessed many specimens, and have seen a great number of others.

N. (The green-brindled Crescent) alis fusco viridi pallidoque variis, lunula alba marginis tenuioris *Oxyacanthæ.* 115.

Noctua Oxyacanthæ. Fab. Ent. Syst. 3. 93. 277.—*Hüb. Schmet. Noct.* 7. 31.

Phalæna Noctua Oxyacanthæ. Lin. Faun. Suec. 1207.—*Lin. Syst. Nat.* 2. 852. 165.

HABITAT Larva in Cratægo Oxyacanthâ verno. Imago f. Sep. Sepibus.

EXPANSIO alarum 1 unc. 7 lin.

DESCRIPTIO. Alæ anticæ viridi pulchre irroratæ, presertim ad marginem tenuiorem, strigâ anticâ undatâ lineolâque a basi post strigam atris. Tunc stigmata ordinaria pallidiora, anterius magnum rotundum, exterius maximum longitudinaliter ovale; et pone hoc striga obsoletissima tenuissima pallescens, quæ terminat angulum ani versus in lunulâ albâ. Ad marginem posticum fascia pallescens, vel glaucescens, quæ ad marginem tenuiorem vix attingat, in qua fascia ordo punctorum fuscorum. Cilia cinerea ordine punctorum fuscorum majorum, Posticæ alæ fuscæ, strigâ marginali obliteratâ albicante.

β. (The dark Crescent) alis anticis fusco brunneis absque viridi, strigâ punctorum minutorum pallidiorum marginali.

OBS. The location of this species, is not so natural, as it is convenient; and it might be better to follow Hübner in arranging it after Noctua occulta: and Bombyx oleagina should certainly accompany it.

oleagina. 116. N. (The green-brindled Dot).
Bombyx oleaginus, supra, 120. 70.

ridens. 117. N. (The frosted Green) cristata alis deflexis viridi fusco alboque variis: macula baseos strigisque duabus undatis albis, antennis flavescentibus. Fab.

HABITAT apud nos valde infrequens. Larva f. Jun. Quercu. Imago m. Ap.

Noctua ridens. Fab. Ent. Syst. 3. 119. 360.

Noctua Xanthoceros. Hüb. Schmet. Noct. 43. 205.

Phalæna Noctua chrycoceras. Beck. in Lin. Tr. 2. 3. t. 2. f. 1. 3.

EXPANSIO alarum 1 unc. 6 lin.

DESCRIPTIO. Statura et magnitudo N. Rumicis. Caput et thorax virescentia, albo irrorata. Antennæ flavescentes. Abdomen pallidum. Alæ viridi fusco alboque variæ macula magna, distincta, alba baseos ad marginem exteriorem, quæ strigam undatam, albam attingit. Pone maculas ordinarias striga undata, altera, alba. Versus apicem strigæ lineolis albis lunulisque atris. Fab. l. c.

OBS.

Obs. As our moth agrees admirably well with the above Fabrician description, I have preferred it to a new one: but must not omit to observe, that although it appears to be the ridens of Fab. it is not of the great Lepidopterist Hübner, who figures (but without letterpress) a different species under that name, and expressively calls our present one Xanthoceros; a word of the very same import as Mr. Beckwith's chrysoceras, which was published the same year, viz. 1794, as that of ridens of Fab.——Having used the above description of Fab. it became consistent also to use the name he has attached to it.

Obs. The location of this species also is probably more convenient than natural. Hübner arranges it near Rumicis: yet it materially differs from that in the Larva.

N. (The marbled Green) alis virescentibus lituris strigisque undatis nigro-albis, costa nigro punctata. *Lichenis.* 118.

Noctua Lichenis. Fab. Ent. Syst. 3. 104. 312.

HABITAT in Muris Lichenosis prope Chelseiam copiose, Imago f. Jun. — Jul.

EXPANSIO alarum 1 unc.—1 unc. 1 lin.

DESCRIPTIO. Hæc species, colore valde variabilis est.

α. Alis læte viridibus, lituris magnis variis nigris, albo plus minus adnatis. Pone stigmata obsoleta, striga undata fere moniliformis alba, intus tenuè nigra, extus fusco late adnata. Tunc striga nigra ex punctis duobus magnis sagittatis confluentibus, intus albo plus minus adnata, ciliis nigro maculatis. Alæ posticæ fuscescentes, marginem versus saturatiores, ciliis albis.

Noctua Lichenis. Hüb. Schmet. Noct. 5. 21.

β. Minus virescens, characteribus nigris tenuioribus. Alæ posticæ pallidiores.

γ. Alis fere albidis, cæteris ut in præcedente.

δ. Alis sordide rufescentibus, posticis fuscis; cæteris ut in priore.

ε. Virescens, characteribus nigris fere obliteratis.

ϑ. Sordide sub-canescens, vix virescens, punctis posticis sagittatis, ciliarumque omnino obliteratis; cæteris ut in ultimâ.

N. (The marbled Beauty) albis alis strigis undatis, stigmatibus maximis subovalibus fuscis, albo marginatis. *perla,* 119.

Noctua perla. Fab. Ent. Syst. 3. 104. 310.—*Hüb. Schmet. Noct.* 5. 25.

HABITAT

HABITAT ad Muros antiquos apud Greenwich Park, copiose. Larva in Lichenibus crustaceis. Imago Aug.

EXPANSIO alarum 1 unc.

DESCRIPTIO. Præcedenti valde affinis at distincta. Alba, alæ anticæ costâ nigro punctatâ, strigisque undatis transversis nigris: una basi fere fracta; secunda ante medium: tunc stigmata ordinaria maxima fusca, anteriore majore! tunc striga tertia tenuissima: demum ordo punctorum obsoletorum nigrorum subconfluentium, et subinde subsagittatorum: denique striga alia tenuissima in ipso margine ex lineolis minutissimis confertis nigris. Cilia alba ordine punctorum fuscorum. Alæ posticæ etiam albæ, lunulâ in medio, margine plus minus fusco; et sæpius ordine punctorum alborum, ciliis albis.

11. RUSTICÆ. Alis plus minus fuscis vel cinerascentibus, inornatis, stigmatibus ordinariis plerumque duobus, antennis subinde, plus minus pectinatis.

OBS. As Bombyx fuscus, denticulatus, and phæus, above enumerated, will rank more naturally at the head of the present section, of Noctuæ, (as I now find they have their tongue and palpi) than where I have placed them; they are here recapitulated. Of the former it remains to be observed, that the specimen described was much darker in its upper wings than several others I have since examined; and as it proves not to be a Dart, its english name is here altered. Denticulatus I have since received Hübner's figure of, as also that of phæus, but without letterpress, the former by the name of cinerea, the latter by that of tenebrosa. The female likewise of cinerea is figured, by which we learn that it is darker on the Continent than the male, in which it corresponds with an english specimen which I have seen alive.

† Alis (prima specie exceptâ) strigatis, nec fasciatis.

fusca. N. (The barred feathered Rustic)

120. *Bombyx fuscus, supra,* 119. 68.

OBS. The figures of Noctua trimacula of Hüb. Beitræ. Noct. 30. 141. mas. 142. fem. closely approach this species, especially the female figure, which however is still very distinct. This Noctua trimacula must not be confounded with

with the *Phalena* trimacula of Donovan, 352. 2. which is the female of a genuine Bombyx above described.
Obs. I now possess this species, from G. B. Sowerby, F.E.S.

N. (The feathered Rustic.) *phæa.* 121.
Bombyx phæa. Marsh. M.S.
Bombyx phæus, supra, 133. 94.

N. (The light-feathered-Rustic). *denticulata.* 122.
Bombyx denticulatus, supra, 133. 95.

N. (The neglected Rustic) alis pallide et sordide fuscis, strigis maculisque ordinariis saturatioribus. *neglecta.* 123.
Noctua neglecta. Hüb. Schmet. Noct. 34. 160. *
Habitat in Anglia: D. Francillon, et D. Phillips. †
Expansio figuræ Hübneri. 1 unc. 8 lin.
Obs. My friends Mr. Francillon, and Mr. Lee Philips of Manchester, have english specimens of this rare species, but the above is all the description, I possess of them.

N. (The square-spot Rustic) alis subfuscis macula quadrata inter stigmata, strigisque obsoletis tribus fuscis, unaque postica pallescente. *tetragona.* 124.
Noctua tetragona. Marsh. M.S.
Noctua tetragonina. Prod. Lep. Brit. 18. 159.
Habitat. Imago Aug. Sepibus frequens.
Expansio alarum. 1 unc. 4 lin.
Descriptio. Variet.
α. Pallide fusca ani barbâ lutescente. Alæ anticæ pallide fuscæ, strigis duabus undatis sive fractis fuscis ante medium: tunc stigmata ordinaria lutescentia: pone hæc striga arcuata pectinata, vel punctorum nigrorum: denique marginem posticum versus striga alia vix conspicua paulo undulata pallescens, ciliis fuscis. Posticæ alæ albicantes fimbriâ paulo saturatiore, ciliis lutescentibus.
Obs. Strigæ omnes subinde plus minus obliteratæ sunt.
Noctua rubricosa. Hüb. Schmet. Noct. 91. 430.
Obs. This figure, which I have received without letterpress, since the Prodromus was printed, appears to represent, but not happily, the present variety: yet the description of Noctua rubricosa in Fabricius, does not agree, either with Hübner's figure or our specimens.
β. (The rusty Square-spot Rustic) thorace alisque griseis, sive sordide subferrugineis: posticis albo-lutescentibus, striga obsoleta pone medium punctorum subfuscorum aliaque cinerascente ad marginem posticum; cæteris ut in α.
γ. (The

γ. (The bordered Square-spot Rustic) posticis alis fimbria lata fusca, cæteris ut in β. Forte propria species.

xanthographa. 125. N. (The dotted Rustic) alis fuscescentibus strigis tribus obsoletis fuscis aliaque postica pallescente, stigmatibus albo marginatis.

Noctua Xanthographa. Hüb. Schmet. Noct. 29. 138.—Sed nec Fab. quæ forte ad Hemigeometram pertinet.

Habitat rarissime apud nos. Imago in peridumetis: tempore oblito.

Expansio alarum. 1 unc. 4 lin.

Descriptio. Præcedenti simillima at distincta, sed vix differt nisi in stigmatibus minoribus, et in strigâ posticâ magis obsoletâ intus fusco latius adnatâ. Alæ posticæ albicantes. Exemplaria duo tantum vidi.

redacta. 126. N. (The lesser dotted Rustic) alis griseis strigis tribus obsoletis fuscis, aliaque postica pallescente, stigmatibus albido marginatis.

Noctua depunctina. Prod. Lep. Brit. App. 7.

Habitat apud nos infrequens, tempore oblito.

Expansio alarum. 1 unc. 2 lin.

Descriptio. Præcedente minor, et frequentior, at characteribus simillimis, sed paulo obsoletioribus. Alæ posticæ cinerascentes, minus albicantes, præcipue in fœmina. Fœmina mare saturatior.

Obs. The chief difference of this, from the preceding, is that of dimensions: it is not much more than half the size, and does not seem to vary. In this obscure section, constancy of appearances, is of more consequence in determining a species, than a few variations in the markings. From Germany I have received it by the name of Noctua depuncta: but the Noctua so named in the Linnæan Cabinet is different; and not yet known to me as british.

egens. 127. N. (The garden Rustic) alis fuscescentibus striga lata obsoleta postica stigmatibusque ordinariis fuscis.

Habitat in Hortulo meo, rarius.

Expansio alarum 1 unc. 2 lin.

Descriptio. Præcedenti simillima at vix eadem. Alæ anticæ uniformiter fuscescentes, stigmatibus ordinariis fuscis distinctis, strigaque postica fusca, angustiore quam in sequente. Posticæ Maris ut in præcedente; Fœminæ pallidiores ut in præcedente.

Sepii. 128. N. (The mottled Rustic) alis griseis nebulosis, fascia postica undata,

undata, stigmatibusque subdistinctis maculæformibus fuscis.

Noctua Sepii. Hüb. Schmet. Noct. 34. 161.

Habitat in Hortulo meo frequens, Imago.

Expansio alarum. 1 unc. 2-3 lin.

Descriptio. Alæ anticæ griseæ, nebulis variis, punctisque costalibus fuscis; striga una alterave tenuissima fusca, basi, alteraque pone stigmata. Posticæ præamplæ albæ strigâ marginali fuscâ, ciliis albidis tinctura lutei.

β Major alis longe saturatioribus.

γ Minor alis longe saturatioribus minus strigatis.

Obs. In the Linnæan Cabinet this Moth stands amongst the Noctuæ, ticketed "conspicillaris alter sexus" and along with it is the Noctua cubicularis of Hübner, whence it appears these two species have been confounded in that cabinet, although perhaps since the time of the elder Linnæus: for certainly neither of these insects have the least resemblance to his description of conspicillaris.

N. (The brown Rustic) alis fuscis. tinctura grisei, strigis duabus certo situ in medio saturatioribus obsoletissimis. *obsoletissima.* 129.

Habitat in Cantio at rarissime, tempore oblito. Exemplaria duo tantum vidi.

Expansio alarum. 1 unc. 3 lin.

Descriptio. Obscurissima omnium, at nihilominus valde distincta. Alæ primores anticè, et ad marginem posticum, paululum pallidiores sunt; costa pallide punctata: strigæ in medio at distantes. Posticæ pallide fuscæ.

N. (The grey Rustic) alis cano subrufescentibus, strigis obsoletissimis punctoque medio fusco, posticis perfuscis. *lævis.* 130.

Noctua Lævis. Hüb. Schmet. Noct. 34. 163.

Habitat in Peridumetis prope Londinum at rarissime tempore oblito. Exemplaria duo tantum vidi.

Expansio alarum. 1 unc. 4 lin.

Descriptio. Strigæ fere ut in N. tetragona, at tenuiores et obsoletiores, nisi lente vix conspicuæ. Stigma anticum deest; posticum reniforme, margine solo manifestatum basi puncto nigro. Cilia anticarum sordide rufescentia, posticarum pallidiora.

N. (The sordid Rustic) alis sordide-rufescentibus strigis duabus obsoletissimis punctoque pone medium fuscis. *sordida.* 131.

Noctua sordida. Marsh. M. S.

Habitat in Anglia rarissime. †

Expansio

Expansio alarum. 1 unc. 4 lin.

Descriptio. Alæ superiores rufescentes; pone medium strigæ duæ fere obliteratæ. Stigmata ordinaria obsoletissima, margine solum vix conspicua; anterius orbiculare evanescente exterius reniforme et ad latus interius fuscum. Ordo punctorum minutissimorum marginalis. Alæ inferiores pallidiores.

Obs. This description was made from Mr. Jones's Cabinet eight years since.

blanda. 132. N. (The powdered Rustic) alis canescentibus fusco pulverulentibus, striga postica undulata rufo-fusca extus pallida.

Noctua blanda. Fab. Ent. Syst. 3. 48. 130.—*Hüb. Schmet. Noct.* 34. 162.

Habitat prope Londinum rarissime, tempore oblito. Exemplarium unicum solum vidi.

Expansio alarum. 1 unc. 4 lin.

Descriptio. Alæ anticæ minutim nebulosæ et fusco vel nigro pulverulentæ, præsertim humeros versus. Stigmata graciliora quam in præcedentibus, et valde exigua, anterius fuscum punctiforme; exterius gracile sublunulæformé interne pallidum et fere in imo dorsi puncto minutissimo albo adnatum. Striga juxta marginem posticum fusca tincturâ rufedinis, extus pallida cinereaque. Margo ipse posticus punctulis fuscis subtrigonis, ciliisque cinereo-fuscis. Posticæ albæ, venis margineque fuscis, ciliis albis.

cubicularis. 133. N. (The pale mottled Willow) alis canescentibus nebulosis, striga postica undulata ex punctis confertis triangulari-sagittatis rufis extus pallidis.

Noctua Cubicularis. Hüb. Schmet. Noct. 89. 417.

Habitat in Salicetis et Hortis frequens. Imago m. Jun.

Expansio alarum 1 unc. 2-3 lin.

Descriptio. Præcedenti valde affinis, at minor, alis obsoletissime strigatis fere ut in N. tetragona, stigmate postico fusco. Margo posticus (ani angulo excepto) fuscus, ante ordinem punctorum fuscorum in ipso margine, ciliis cinereis. Cætera ut in ultima.

β. Alis anticis absque strigâ fuscâ in postico margine.

γ. Paulo minor, strigis fere ut in Noctua xanthographa. Stigma anticum minutissimum punctiforme, vel subinde deest: posticum tenue reniforme, margine fusco solum conspicuum. Strigæ posticæ rufæ pallidæ et fuscæ præcedentium omnino desunt, cæteris ut in illis.

†† Alis plerumque fasciis fractis.

N. (The Crescent) alis ferrugineo-castaneis, macula angulata magna saturatiore fasciæformi in medio, in qua lunula alba. *lunina.* 134.

Noctua lunina. Prod. Lep. Brit. 19. 164.

Habitat, Imago in sepibus Cantabrigiensibus, at rarissime. Exemplaria tria solum vidi.

Expansio alarum 1 unc. 4 lin.

Descriptio. Alæ anticæ pallide castaneæ margine postico fusco. Stigmata ordinaria in superiore parte maculæ fasciæformis, quæ macula margines non attingit. Anterius stigma, rotundum margine pallescente solum conspicuum, subinde obliteratum: exterius lunatum, album vel medio griseum. Margo posticus fasciâ tenui ustulato-fuscâ. Alæ posticæ fuscescentes.

N. (The Double-lobed) alis griseis fascia abbreviata marginis crassioris subdolabriformi nigra, in qua stigma reniforme griseum. *biloba.* 135.

Noctua biloba Marsh. M. S.

Noctua bilobina. Prod. Lep. Brit. 18. 147.

Noctua Ophiogramma. Hüb. Schmet. Noct. 76. 355.

Habitat apud nos valde infrequens. Imago m. Jul. Sepibus.

Expansio alarum 1 unc. 3-4 lin.

Descriptio. Caput, thorax, abdomen, alæque posticæ fuscescentia. Alæ anticæ griseæ, costâ omnino nigrâ, apice excepto: quæ nigrities in medio format maculam magnam semirotundatam, marginem tenuiorem versus emarginatam. Macula cuspidata nigra ad angulum ani, et alia minor angulata juxta marginem posticum.

Obs. Since this was published in the Prodromus I have received the above cited figure of Hübner, but without letter press.

N. (The flame Furbelow) alis ochraceis margine costali posticoque irregulariter late fuscis; stigmate reniformi niveo anticè, strigaque fusca. *furca.* 136.

Noctua furca. Marsh. M. S.

Noctua furcina. Prod. Lep. Brit. 19. 170.

Habitat Imago i. Aug. Ripis.

Expansio alarum 1 unc. 3 lin.

Descriptio. Præcedenti simillima, at alia, fasciâ costæ pallidiore, magis indefinitâ atque fractâ. Alæ posticæ fuscæ.

β. Stigmate postico absque albo.

N. (The Russet) alis subrufis, margine crassiori postieoque irregulariter *rava.* 137.

irregulariter late fuscis; stigmate reniformi niveo anticè, striga fusca.

Habitat cum priore at rarior.

Expansio alarum. 1 unc. 3 lin.

Descriptio. Ultima nimis affinis, at constans, alæ anticæ strigâ undatâ pallescente ante fuscum marginis postici, magis conspicuâ quam in prioribus duabus, tamen valde obsoletâ. Alæ posticæ saturate fuscæ. Margo anticus stigmatis postici plus minus albo punctatus.

β. Stigmate postico absque albo.

Noctua Testacea. Hüb. Schmet. Noct. 29. 139?

lucipara. 138. (The small Angle-shade) alis griseo-rufescentibus fascia in medio margineque postico fuscis, stigmate reniformi flavicante.

Noctua lucipara. Fab. Ent. Syst. 3. 99. 294.—*Hüb. Schmet. Noct.* 11. 55.

Phalæna Noctua lucipara. Lin. Faun. Suec. 1201.—*Lin. Syst. Nat.* 2. 857. 187.

Bombyx flavomacula. Fab. Mant. 2. 117. 104.

Habitat. Imago f. Jun. Peridumetis valde infrequens.

Expansio 1 unc. 3-4 lin.

Descriptio. Caput, thorax cristatus, ani barba, et fasciculi dorsales nigra, abdomen fuscum vel subinde flavorubescens. Alæ anticæ nitidæ, griseo vel cinereo rufescentes, sæpe paululum purpurascentes, basi punctis paucis nigris: fascia in medio, angulata, in qua stigmata ordinaria, anticum pene obliteratum, posticum ovale magnum flavicans, in sinu marginis exterioris fasciæ. Posticæ alæ fuscæ, vel subinde cinereo-flavicantes.

secalina. 139. N. (The small clouded Brindle) alis griseo fuscoque variis, strigis duabus pallidioribus, stigmatibus albicantibus.

Noctua Secalina. Hüb. Schmet. Noct. 89. 420.

Habitat apud nos valde infrequens, f. Jun. paludosis. Exemplaria perpauca solum vidi.

Expansio alarum. 1 unc. 4-6 lin.

Descriptio. Alæ anticæ griseo fuscoque variæ nebulosæ. In medio fascia fracta abbreviata saturatior, in qua stigmata ordinaria, anticum antrorsum inclinans, margine albo; posticum reniforme fuscum latius albo cinctum; inter hæc et marginem posticum macula angulata costalis subfusca, in qua puncta quatuor costalia alba. Posticæ fuscæ ciliis rufis.

β. Alis anticis lineola longa nigra in medio fasciæ ut in sequente,

quente, stigmate antico oblongo magis antrorsum inclinante; posticis fuscis, ciliis rufo-cinereis.

γ. Major, alis pallidioribus minus rufescentibus; stigmatibus majoribus albidioribus; lineola nigra medio validiore; posticis dilutioribus. Forte distincta species. Exemplarium unicum solum vidi, quod cepi pascentem vespere f. Jun. apud flores Iridis Pseudacori, prope Batterseiam, cum α.

N. (The Letter I) alis griseo fuscoque variis, litera I nigra in medio ramulum exerente. *I-niger.* 140.

Habitat. Imago i. Aug. Ripis cum præcedentibus, frequens.

Expansio alarum. 1 unc. 3-4 lin.

Descriptio. Valde variat.

α. Alæ griseæ, in medio fascia fracta nigro fusco cinereoque varia, in qua stigmata ordinaria, et lineola nigra ramulum antrorsum exerens, et literam I Romanorum simulans. Lineolæ duæ aliæ basi etiam nigræ. Margo posticus maculis duabus semirotundatis subconfluentibus. Stigma reniforme ochraceum. Posticæ alæ fuscæ.

β. Alis fuscescentibus; stigmate reniformi niveo dorso strigaque ejus fuscis. Forte varietas sequentis.

γ Alis ravusatis stigmate reniformi niveo dorso strigaque ejus ravis.

δ Alis stigmatibusque ravis, cæteris ut in α.

ε Alis ravo-purpurascentibus; stigmate reniformi extus in ipso margine lunula lutea, puncto albo utrinque terminata.

Obs. Some of the varieties of this species so nearly approach the Noctua Secalina of Hüb. Schmet. that I formerly conceived they were the same. When neighbouring *species* abound in *varieties*, it becomes difficult to separate them correctly.

N. (The common Rustic) alis cinereo-fuscis vel griseis, nebulosis, obsolete strigatis, stigmate reniformi niveo. *oculea.* 141.

Phalæna Noctua oculea Lin. Faun. Suec. 1215.

Phalæna Noctua nictitans Villars. Ent. 2. 220. 203.

Noctua 4 puncta Fab. Ent. Syst. 3. 22. 46.

Noctua Phœbe Marsh. M. S.

Noctua Phœbina Prod. Lep. Brit. 18. 148.

Habitat, in Hortis et Ripis, vulgaris. Imago. i. Aug.

Expansio alarum, 1 unc. 3-5 lin.

Descriptio. Præcedenti nimis affinis, at notabiliter differt absentiâ literæ I nigræ.

In

In coloribus valde variat.

α. Alis fuscescentibus nebulosis, strigis duabus in medio pallidioribus obsoletissimis, et inter has colore saturatiore atque stigmatibus ordinariis, postico niveo. Alis posticis fuscis.

β. Priore differt stigmate reniformi subfusco puncto unico luteo aliisque pallidis.

γ. Alis tinctura subrufa, vel ferruginea, stigmate reniformi niveo.

δ. Alis tinctura subrufa, stigmate postico cinereo puncto luteo, aliisque albis.

ε. Alis cinereis et marginem crassiorem versus magis saturatioribus quam in prioribus, posticè fascia lata pallidiore tincturâ obsolete rufescente. Stigmata ordinaria cinerea margine albido. Forte propria species.

Obs. I believe I received this variety from Mr. Salt of Sheffield, but am not certain: if not, I bought it in a mixed lot at a sale.

Obs. The name oculea but ill applies to this species.

lugens. 142. N. (The Rustic Mourner) alis nigris, sub-nebulosis, stigmate reniformi niveo.

Noctua lugens Marsh. M.S.

Noctua lugensina. Prod. Lep. Brit. 18. 149.

Noctua nictitans. Hüb. Schmet. Noct. 20. 97. *nec Lin. Faun. Suec.*

Habitat Ripis. Imago i. Aug. at rarissime. Exemplaria tria solum vidi.

Expansio alarum 1 unc. 3-4 lin.

Descriptio. Præcedentibus affinis at absolute niger nebulis atris; stigmate reniformi niveo, punctulis paucis albis adjacentibus minutissimis. Juxta marginem posticum striga undata obsoletissima, punctorum pallidiorum. Posticæ alæ fuscæ.

Obs. It is extremely probable that some of the species of this obscure section, which are given above as nondescripts, have already been enumerated by Fabricius or others: but until that is satisfactorily ascertained; it is better to describe them as new, than to run the risque of confounding them with others, accompanied by notes of interrogation.

12. MINORES. Statura minore quam in cæteris.

Obs. Perhaps this section, and the last subdivision would have arranged better nearer the Brocadea.

N. (The minor Shoulder-knot) alis canescentibus cinereo fuscoque nebulosis, lineola basi atra. *scripta.* 143.

Noctua Scripta. Hüb. Schmet. Noct. 10. 50.

Habitat apud nos valde infrequens. Imago Jun. Sylvis.

Expansio alarum. 1 unc. 2 lin.

Descriptio. Antennæ setaceæ. Alæ canæ nitentes, cinereo nubilosæ, nebulis nigris. Stigmata ordinaria tria in medio, marginibus nigris interruptis solum conspicua. Margo ipse posticus ordine lineolarum nigrarum confertarum, ciliis canis. Alæ posticæ canæ, strigâ nigra in ipso margine fere integra ciliis canis.

β. Antennæ breviter pectinatæ. Alæ longe saturatiores quam in α; posticæ fuscæ, vel fuscescentes strigâ marginali magis interruptâ, ciliis cinereis.

Obs. Abdominis barba lateraque, et lineolæ duæ costales, maculaque parva basi marginis tenuioris læte purpurascunt. Forte sexus alter. Forte propria species. Exemplarium unicum quod apud Coomb Wood cepi, solum vidi.

N. (The rosey Minor) alis glaucis striga postica flexuosa rosea, lineolis literæformibus in medio, nigris. *literosa.* 144.

Habitat in Comitatu Norfolciense, Imago. f. Jul. Hortis. Communicavit primo ejus captor Rev. J. Burrell.

Expansio alarum. 11 lin.

Descriptio. Stigmata in medio ut in ultima, at longe obsoletiora, margine nigro fracto solum conspicua; qui margo format lineolas literæformes nigras.

N. (The marbled Minor) alis cinereo griseoque variis nebulosis, posticè strigisque tribus undatis albis, nigro adnatis. *præduncula.* 145.

Noctua Præduncula. Hüb. Schmet. Noct. 20. 95.

Phalæna Noctua strigilis. Lin. Faun. Suec. 1199.

Habitat apud nos rarissime.

Expansio alarum 1 unc. 1 lin.

Descriptio. Penultimæ pene magnitudo. Alæ anticæ striga

strigâ basi nigrâ extus albâ; tunc aliâ albâ extus nigrâ. Tunc stigmata cinerea ordinaria, et pone hæc, striga tertia alba arcuata nigro quasi tenue pectinata, tandem fascia lata alba. Margo posticus fusco griseoque nebulosus, ciliis fuscocinereis. Posticæ alæ fuscæ ciliis fuscescentibus.

strigilis. 146. N. (The minor Beauty) alis cinereo griseoque variis nebulosis; posticè strigisque tribus albis, exterioribus (strigis) per lineolam nigram connexis.

Noctua strigilis. Fab. Ent. Syst. 3. 102. 304?

Phalæna Noctua strigilis. Lin. Faun. 1199?

—— Lin. Syst. Nat. 2. 851. 161?——

—— Villars Ent. 2. 231. 223?

Habitat. Imago Sepibus Jul. at infrequens.

Expansio alarum 1 unc.

Descriptio. Præcedenti paulo minor, sed vix differt, nisi in lineola nigra connectente, quæ constans est in omnibus varietatibus. Variat.

α. Spatio inter stigmata ordinaria fusco-cincta, griseo, sive rufescente.

β. Macula quadrata nigra inter stigmata ordinaria.

γ. Alis magis griseo, sive rufescente suffusis, fascia postica alba, macula grisea in ejus medio, maculaque quadrata nigra inter stigmata ordinaria.

Obs. This variety appears to be the connecting link between the preceding and following species; yet it is best to keep them distinct: because the same principles which would unite them, would likewise sink nearly all the articles of the present, or any other very natural section, into one species. They have all the same lines and marks, and in the same places throughout, differing only in intensity and colour. To join them into one would be a capital error, no less indeed than that of mistaking a section for a species!

latruncula. 147. N. (The tawny marbled Minor) alis rufo-cinereis nebulosis medio saturatioribus.

Noctua Latruncula. Hüb. Schmet. Noct. 20. 94.

Habitat cum prioribus. Imago Jul. vix frequens.

Expansio alarum 1 unc. 1 lin.

Descriptio Variat.

α. Statura N. Prædunculæ, et nimis ei affinis: differt alis anticis undique subrufo-cinereis; posticis perfuscis ciliis rufescentibus fusco maculatis.

β. Statura sequentis et nimis ei affinis, minor quam α, coloribus

ribus saturatioribus, alis magis nigro nebulosis; posticis perfuscis, ciliis pallidioribus.

N. (The Blackamoor) alis omnibus nigris, anticis atro nebulosis. *æthiops.* 148.

Habitat, Imago f. Jun. Septis, frequens.
Expansio alarum 1 unc.
Descriptio. Variat.
α. Totus niger, alis anticis medio aliquot saturatioribus nebulis atris.
β. Alis fuscis, vel fuscescentibus, medio saturatioribus nebulis nigris. Longe pallidior quam α.

N. (The cloaked Minor) alis æqualiter antice fuscis, posticè cinereo-albidis, margine postico fusco; posticis fuscis basi cinerascentibus. *humeralis.* 149.

Habitat. Imago Jul. sepibus frequens.
Expansio alarum 10-12 lin.
Descriptio. Mirabiliter variat.
α. Alis anticis a basi ad medium fuscis vel nigris, tunc late albidis, et nebulosis strigâ undatâ pallidâ in fasciâ marginali irregulari fuscâ: antennis fuscis.
β. Nigredine anticarum alarum albedine fracto, alis postice magis cinereis.
γ. Nigredine anticarum pene evanescente, cæteris ut in ultimâ.

N. (The flounced Minor) alis fusco-rufescentibus margine postico undatim nigricante, antennis ferrugineis. *terminalis.* 150.

Habitat cum prioribus at rarior.
Expansio alarum 10-13 lin.
Descriptio. Variat.
α. Ultimæ nimis affinis sed absque albedine. Alæ anticæ medio vix nebulosæ, sed uniformiter rufescentes, posticæ perfuscæ, ciliis cinereis.
β. Prioribus major, antennis pallide ferrugineis, alis anticis fusco-rufescentibus absque albedine, in medio solum paulo saturatioribus, vel potius nigro pulverulentibus; posticis cinereis fimbriâ latissimâ fuscâ. Forte propria species.

N. (The middle-barred Minor) alis rufis, in medio fascia lata saturatiore stigmatibus ordinariis pallidioribus interrupta. *fasciuncula.* 151.

Habitat, frequens cum prioribus.
Expansio alarum 10-12 lin.

Descriptio.

DESCRIPTIO. Variat.

α. Thorax, alæque anticæ saturate rufæ, fascia magna brunnea marginem tenuiorem versus, valde attenuata et albo obsolete marginata; margo posticus fascia tenuiore rufo-brunnea, ciliis rufo-fuscis. Posticæ alæ nigræ ciliis albis, interdum cinereis.

β. Longe pallidior, alis cano-rufescentibus, fascia ut in α, sed rufo-fusca; posticis nigris, ciliis cinereis.

rufuncula. 152. N. (The plain-red Minor) alis toto rufis, strigis tribus obsoletissimis pallidioribus.

HABITAT apud nos valde infrequens cum prioribus. Primo communicavit ejus captor Dom. W. J. Hooker, ex comitatu Norfolciense.

EXPANSIO alarum 12 lin.

DESCRIPTIO. Thorax, abdominis barba, alæque anticæ rufa, strigis duabus rectis medio, alterâque undatâ juxta marginem posticum pallidioribus, at nisi lente vix conspicuis, et interdum plus minus obliteratis. Posticæ rufo-fuscæ, ciliis rufis. In ipso margine postico anticarum, lente, ordo punctorum nigrorum lunato-triangulatorum.

minima. 153. N. (The least Minor) alis rufo-cinereis, maculis duabus ordinariis strigisque tribus pallidioribus.

Noctua minima. Prod. Lep. Brit. 19. 172.

HABITAT rarissime apud nos. Imago m. Aug. Sylvaticis. Exemplarium unicum solum vidi, quod in Cantio cepi.

EXPANSIO alarum 8 lin.

DESCRIPTIO. Omnium minima hujus generis. Alæ anticæ strigâ rectâ ante medium albâ, lineolis nigris intersectâ et inde submoliniformi. Tunc stigmata ordinaria maculæformia rotunda; inter hæc macula fusca usque per costam: tunc striga alia arcuata alba, priori simillima; demum striga latior undata pallida ad marginem posticum; ciliis cinereis. Posticæ fuscæ, ciliis albis.

13. PSEUDO-BOMBYCES. Antennis sæpissime plus minus pectinatis. Alis tristigmatiferis, tertio stigmate teliformi.

Obs. Since the Bombyces of this work were published, it has been discovered by repeated examinations, that the whole section Tristigmatiferi, notwithstanding the contrary opinion of various authors, are genuine Noctuæ of the present family, and resemble true Bombyces in nothing but their strongly pectinated antennæ. Wherefore that section necessarily merges in the present one: and that it may do so as correctly as practicable; the names of its species are hereunder repeated, and referred to their preceding descriptions, and the new ones incorporated with them and described. Proper advantage is likewise taken to improve the locations of such as admit it.

N. (The small Sword-grass). *spinifera.* 154.
Bombyx spinifera. Supra, 114. 51.
Obs. Fœmina mari simillima, vel paululum saturatior, antennis setaceis.
Obs. 2. Donovan's fig. 3. pl. 345. agrees with this, except in wanting the essential spine-shaped mark in the sinus of the reniform stigma, a character I have not seen in any other moth, except the following, (which is perhaps only a variety of its female) and two from New Holland.

N. (The dark Sword-grass) alis griseis fusco-nebulosis, fascia lata medio fuliginosa, stigmate postico unispinoso. *suffusa.* 155.
Noctua suffusa. Fab. Ent. Syst. 3. 71. 201.—*Hüb. Schmet. Noct.* 28. 134. *Fœm.*
Habitat apud nos valde infrequens: et etiam in Americæ Georgiâ.
Expansio alarum 2 unc.
Descriptio. Præcedente major, et longissime saturatior, antennis omnino setaceis. Exemplaria anglicana quatuor solum vidi fœminæ, marem nunquam: igitur forte varietas fœminæ.
Obs. 2. This is to Donovan's figure 3. pl. 345; what the last was to his figure 2 of the same plate, and also disagrees in that being too small; which, however, is almost always the case with his figures.

margaritosa. 156. N. (The pearly Underwing) alis griseo cinereis nebulosis, stigmatibus tribus ordinariis, subobliteratis, macula apicis pallidiore: posticis fuliginoso-albis tinctura violacei, venis, margineque postico, angulum ani præcipue versus fuscis.

Habitat apud nos valde infrequens, apud Solanos tuberosos. Imago f. Sept.

Expansio alarum. 2 unc.

majuscula. 157. N. (The dark pearl Underwing) alis griseo-fuscis vel piceo-nigris, stigmatibus tribus subobliteratis: posticis fuliginoso-albis tinctura violacei, venis margineque postico, angulum ani versus præcipue, nigris.

Habitat apud nos rarissime. Exemplaria duo in Musæo J. Hatchett solum vidi.

Descriptio. Mas antennis paululum pectinatis; Fœmina setaceis. Priori nimis affinis staturâ, magnitudine, et fere in omnibus.

corticea. 158. N. (The pointed Dart).

Bombyx corticeus, supra. 116. 59. excluso synonymo Hübneri, quæ potius ad B. clavigerum pertinet.

Obs. I have still seen but one specimen of this, and one of the following species. They are both males, and may perhaps belong to females already known by other names, this however further experience only can satisfactorily determine; for, as already observed, it is not allowable to unite differing creatures together as sexes, without proper authority. It being a far more pardonable error in a writer to enumerate them separately, accompanied by his doubts. Nature herself revolts at the former error, and good sense well knows the latter, in this intricate science, to be often unavoidable.

connexa. 159. N. (The chain-shot Dart).

Bombyx connexus, supra. 116. 58.

venosa. 160. N. (The broad-veined Dart).

Bombyx venosus, supra. 116. 60.

β. This may possibly be the male, as it has strongly pectinated antennæ, but it wants the broad conspicuous veins of α, whose antennæ are setaceous.

spinula. 161. N. (The brindled Dart).

Bombyx spinulus, supra. 115. 57. exclusis synonymis Donovani et Hübneri.

N. (The

N. (The black Dart). *nigricornuta.*
Bombyx nigricornutus, supra. 117. 62. 162.

N. (The necklace Dart). *monilea.*
Bombyx monileus, supra. 115. 56. 163.
OBS. It is probable the three last may all belong to one species; and the next differs from the last in nothing material, except the striga recta, instead of the striga undulata, postica punctorum, which however seems sufficient. Nevertheless I have not met with intervening specimens which authorize me to sink them into varieties. They belong to a most difficult section, and are not yet well known.

N. (The dark Dart). *subatrata.*
Bombyx subatratus, supra. 116. 61. 164.

N. (The pectinated Dart.) *pectinata.*
Bombyx pectinatus, supra. 115. 55. 165.

N. The brindled Heart and Club). *catænata.*
Bombyx Segetis. Hüb. Schmet. Noct. 31. 146?
Bombyx catænatus, supra. 114. 52. 166.

N. (The Heart and Club). *clavigera.*
Bombyx clavigerus, supra. 114. 52. 167.

N. (The brown Heart and Club). *subfusca.*
Bombyx subfuscus, supra. 114. 53. 168.

N. (The Heart and Dart) alis anticis fuscis vel rufescentibus, strigis tribus stigmatibusque nigris. *exclamationis.* 169.
Noctua exclamationis. Fab. Ent. Syst. 3. 70. 198.——*Hüb. Schmet. Noct.* 51. 149.
Phalæna Noctua exclamationis. Lin. Faun. Suec. 1190.—*Lin. Syst. Nat.* 2. 850. 155.
HABITAT Imago, f. Jun. Ripis, volatu celeri.
EXPANSIO alarum 1 unc. 6-8 lin.
DESCRIPTIO. Antennæ minus pectinatæ quam in præcedentibus hujus sectionis, at nullo modo in mare setaceis. Alæ variant.
a. Alæ anticæ fuscæ vel fuscescentes costâ subinde tincturâ purpurei. Striga basi imperfecta repanda nigra, interdum pallido adnata; altera simillima ante medium quæ exserit stigma teliforme nigrum vel atrum: tunc stigma anterius ordinarium annulare pupillâ nigrâ: tunc reniforme latum,

vel

vel fere cordiforme etiam nigrum: tandem striga arcuata denticulata extus pallida; denique striga quarta undata itidem pallida juxta marginem posticum, quæ subinde evanescit. Alæ posticæ maris, albæ costâ margineque cinereis, ciliis lutescentibus; fœminæ fuscæ basi cinerascentes.

β. Alis rufescentibus, posticis fœminæ basi albis.

γ. Alis utroque sexu longe saturatioribus strigis magis oblīteratis, posticis fœminæ perfuscis, basi cinereis.

picea. 170. N. (The pitchy Dart) alis piceo-nigricantibus stigmatibus ordinariis rotundatis nigris.

Habitat in Comitatu Surrejano, tempore oblito. Communicavit ejus captor amicus Rev. S. Bale, F.L.S.

Expansio alarum 1 unc. 3 lin.

Descriptio. Præcedenti nimis affinis. Differt, longe minor, alis saturatioribus absque strigis. Stigmata duo antica oblonga; tertium stigma subrotundum, nec ullo modo reniforme vel cordiforme. Posticæ alæ omnino fuscæ ciliis albis. Exemplarium unicum fœminæ solum vidi.

crassa. 171. N. (The Stout Dart) alis fuscis nitidis atro subnebulosis, corpore prægrosso.

Noctua Crassa. Hüb. Schmet. Noct. 32. 152.

Habitat in Comitatu Norfolciense. Imago m. Aug. Hortis. Communicavit ejus captor Rev. J. Burrell.

Expansio alarum 1 unc. 7-8 lin.

Descriptio. Antennæ omnino setaceæ. Thorax perfuscus antice rufescens. Alæ basi, lineolâ nigrâ, vel atrâ, aliisque irregularibus inter et circa stigmata ordinaria obsoleta. Stigma tertium imperfectum vel interdum omnino obliteratum. Sæpe strigæ obsoletissimæ pallidiores ordinariæ plurimarum Noctuarum, fusco plus minus adnatæ, viz. una basi, altera ante, tertia pone stigmata, quartaque juxta marginem posticum pallida absque fusco. Alæ posticæ albidæ venis fimbriâque fuliginosis. Exemplaria perpauca solum vidi.

augur. 172. N. (The double Dart) alis fusco-rufescentibus strigis characteribusque atris.

Noctua Augur. Fab. Ent. Syst. 3. 61. 170.—*Hüb. Schmet. Noct.* 31. 148.

Noctua cincta Marsh. M. S.

Noctua cinctina. Prod. Lep. Brit. 17. 130.

Habitat. Imago, i. Jul. Ripis.

Expansio alarum 1 unc. 7-8 lin.

Descriptio.

Descriptio. Antennæ omnino setaceæ, quæ valde infrequens per sectionem. Alæ anticæ fuscæ, vel fusco rufescentes, strigâ dentatâ baseos, secundâ ante medium valde dentatâ; tunc annuli duo irregulares atri pro stigmatibus: tunc stigma reniforme margine late nigro, at cinereum in medio: tunc striga extus arcuata postica, ex arcubus fuscis minutis composita: demum fascia aliquot saturatior. Posticæ alæ fuscæ tincturâ rufedinis.

N. (The dark Rustic) alis nigricantibus, nigro pallidoque varie strigatis, stigmatibus duobus ordinariis flavo cinctis. *fumosa.* 173.

Noctua Fumosa. Hüb. Schmet. Noct. 32. 153?

Habitat apud nos rarissime, tempore oblito.

Expansio alarum 1 unc. 4 lin.

Descriptio. Præcedentibus, antepenultimâ exceptâ, longe minor. Sequente vix differt nisi in absentia stigmatis teliformis, et in striga arcuata, quæ stigma reniforme fere tangit. Antennæ maris paulo pectinatæ.

N. (The Garden Dart) alis nigricantibus strigis stigmatibusque tribus pallidioribus. *nigricans.* 174.

Noctua Nigricans. Fab. Ent. Syst. 3. 115. 346.

Phalæna Noctua nigricans. Lin. Faun. Suec. 1220.—*Lin. Syst. Nat.* 2. 855. 178.

Habitat. Imago in Hortis i. Jul.

Expansio alarum 1 unc. 4 lin.

Descriptio. Antennæ maris paulo pectinatæ. Alæ anticæ strigâ rectâ ante, secundâque arcuatâ ultra stigmata obsoletissima pallida medio saturatiora. Stigma tertium margine nigro solum conspicuum. Alæ posticæ albæ, margine, lunulâ medio, venisque fuliginosis.

β. Macula triangulari atra ante, alteraque quadrata inter stigmata ordinaria.

γ. Alis longe pallidioribus vel fuscis, striga tertia postica punctorum pallidiorum, quæ in præcedentibus nisi leste vix conspicua.

δ. Alis rufo-fuscis stigmatibus tribus validioribus magisque flavicantibus in utroque sexu, quam in præcedentibus varietatibus.

ε. Alis sordide rufis, strigis obsolatioribus, stigmate postico omnino obliterato.

Bombyx chrysostigmatus. Prod. Lep. Brit. 9. 54.

N. (The rufous Dart) alis sordide rufis stigmatibus tribus strigisque flavicantibus. *ruris.* 175.

Noctua

Noctua Ruris. Hüb. Schmet. Noct. 89. 416.
Am. Noctua ruris. Fab. Ent. Syst. 3. 125. 378?
Habitat apud nos rarissime. Exemplaria duo solum vidi.
Expansio alarum 1 unc. 7 lin.
Descriptio. Forte mera fœmina ultimæ varietatis, at longe major, strigis stigmatibusque validioribus.

dubia. 176. * †
N. (The white line) alis fuscis vel nigris, strigis stigmatibusque ordinariis saturatioribus, strigaque alia postica conspicua undulata alba.
Habitat in Anglia. D. Francillon.
Obs. Simillima penultimæ, at vix varietas.

obeliscata. 177. *
N. (The Square-spot Dart) alis rufis macula atra trigona ante, alteraque tetragona inter stigmata pallida.
Noctua Obeliscata. Hüb. Schmet. Noct. 26. 123?
Habitat in Cantio rarissime. Exemplarium unicum solum vidi.
Expansio alarum 1 unc. 4 lin.
Descriptio. Statura exacte penultimæ at fere absque strigis. Antennæ pectinatæ. Stigma teliforme nigro cinctum est, et ad basin alæ fere excurrit. Margo posticus undulatim paulo saturatior. Alæ posticæ albido-flavicantes fimbriâ angustiore ciliisque rufescentibus.

sordida. 178. †
N. (The striped square-spot) alis fuscescentibus strigis quatuor submoniliformibus pallidis.
Noctua Sordida. Hüb. Schmet. Noct. 32. 154.
Habitat in Cantio rarissime. Exemplarium unicum solum vidi.
Expansio alarum 1 unc. 4 lin.
Descriptio. Antennæ pectinatæ. Præcedenti affinis at alæ minus rufæ, strigis quatuor conspicuis pallidis nigro vel fusco utraque et subundulatim marginatis, et inde moniliformibus; duabus ante, tertiâ pone stigmata. Quarta striga juxta marginem posticum, undata, ex punctis confluentibus subflavis. Macula triangularis fusca ante, alteraque tetragona inter stigmata. Stigma tertium fere ut in ultima, at pallidius. Alæ posticæ albicantes, fimbriâ, lunulâ medio, venisque fuliginosis.

valligera. 179.
N. (The wedge-barr'd Dart) alis rufo-fuscis stigmatibus tribus, strigaque postica cunsorum fuscorum.
Noctua Valligera. Hüb. Schmet. Noct. 32. 150.

Habitat

Habitat valde infrequens apud nos; Imago, i. Jul.? Hortis.
Expansio alarum 1 unc. 4 lin.
Descriptio. Maris antennæ pectinatæ. Ultima satis differt in strigis longe obscurioribus, et in striga postica ex maculis acutissimis cuneiformibus fuscis. Maculæ fuscæ ad stigmata pallida ut in præcedente. Alæ posticæ albæ, margine venisque fuliginosis. Fœmina magis grisea antennis setaceis, absque fuscedine ante et inter stigmata. Alæ posticæ minus albæ.
Obs. Either this or the following if memory deceives not, is the Phalæna Tritici of Linnæus's cabinet, but probably not of his works.

N. (The white-line Dart) alis rufescentibus stigmatibus tribus strigaque postica cuneorum nigrorum, lineaque alba longitudinali. *albilinea.* 180.
Habitat in Hortis at infrequens, Imago i. Jul.
Expansio alarum 1 unc. 4 lin.
Descriptio. Præcedenti nimis affinis. Differt in coloribus saturatioribus, et præcipue in linea rectissima tenuissima alba, a basi alæ per basin stigmatum, aliaque albida crassior etiam a basi alæ per apices stigmatum. Macula cuneata atra pone, alteraque tetragona inter stigmata albida medio cinerea. Stigma teliforme margine atro conspicuum. Cætera ut in præcedente.

N. (The lineolated Dart) alis rufescente subfuscis stigmatibus tribus, strigaque postica lineolarum nigrarum. *lineolata.* 181.
Habitat in Anglia rarissime. In Musæo amici D. Jones.
Expansio alarum 1 unc. 4 lin.
Descriptio. Præcedenti simillima, at satis differt longitudine stigmatis teliformis, et potissimum, in striga postica nec cuneorum circiter septem, sed lineolarum nigrarum confertarum, circiter duodecim.

N. The shuttle-shaped Dart). *radia.* 182.
Bombyx radius, supra. 119. 67.
Obs. Aug. 8. 1808. I have just seen a female specimen of this, which was taken yesterday in St. James's Park: am now acquainted with it in at least five cabinets; and possess it myself.

N. (The pupilled Dart). *pupillata.* 183.
Bombyx pupillatus, supra. 118. 65.
Obs. I now possess this species.

N. (The

sagittifera. 184. N. (The Archer's Dart).
Bombyx sagittiferus, supra. 118. 66.
OBS. Varietas β. forte distincta est, alis pallidioribus.

subgothica. 185. (The Gothic Dart) alis griseo-fuscis, costa late at dimidiatim, stigmatibusque pallidis.
HABITAT in Anglia valde infrequens. In Musæis tribus solum vidi.
EXPANSIO alarum.
DESCRIPTIO. Præcedentibus affinis absque punctis posticis sagittatis. Stigma anticum subtriangulare, posticum reniforme: ante et inter hæc arcus niger qui reversus apparit in alis expansis. Stigma teliforme prægrande a basi fere ad medium, sed lineolis duabus divaricatim transversis interruptum. Posticæ pallidæ fimbriâ fuscâ.

graminis. 186. N. (The Antler).
Bombyx gramineus, supra. 117. 64.

Ericæ. 187. N. (The Lover's knot) alis rufescentibus albo nigroque variegatis.
Noctua Ericæ. Marsh. M. S.
Noctua Ericina. Prod. Lep. Brit. 18. 151.
HABITAT in Ericetis. Imago f. Jul.
EXPANSIO alarum 11-13 lin.
DESCRIPTIO. In vespere volat, at perdiem, profundissime dormitat. Pulcherrima species, antennis setaceis. Alæ anticæ cinereo-rufescentes, nigro nebulosæ, costâ nigro alboque punctatâ. Striga torta, sive lineolæ albæ nexæ basi; tunc stigma rotundo-oblongum album, et reniforme cinereum albo-cinctum, atque teliforme cinereum; subtus hæc lineola longa alba: tunc striga arcuata et dentata alba, strigaque alia lineolarum albarum juxta marginem posticum; ordine punctorum nigrorum in ipso margine, ciliis rufescentibus. Posticæ cinerascentes ordine lineolarum nigrarum marginali, ciliis cinereis.

14. RURALES, alis sæpius griseis atro subtus costam plerumque signatis.

baja. 188. N. (The dotted Clay) alis griseis subnebulosis, obsolete strigatis, macula nigra costali sub apicem.
Noctua Baja. Hüb. Schmet. Noct. 25. 119.
HABITAT, Imago Peridumetis. i. Aug. at valde infrequens.
EXPANSIO

Expansio alarum 1 unc. 8 lin.

Descriptio. Alæ anticæ strigæ variæ punctorum fere obliteratorum. Stigmata obsoleta, anticum annulo pallido, nigro paulo adnato, solum conspicuum: exterius stigma reniforme ustulatum, margine pallido. Posticæ rufo griseæ, margine saturatiore, ciliis rufis. Fœmina mare saturatior, strigis obsoletioribus.

N. (The purple Clay) alis purpurascentibus fascia postica subundulata saturatiore, stigmate postico flavo. *brunnea.* 189.

Noctua Brunnea Hüb. Schmet. Noct. 26. 121.

Habitat cum præcedente.

Expansio alarum 1 unc. 7 lin.

Descriptio. Ani barba lateraque abdominis rufa. Alæ anticæ basin versus strigis obsoletis punctisve nigricantibus. Macula quadrata atra inter stigmata: stigma anticum rotundum margine flavo nigroque: posterius reniforme, et medio sæpe cinereum, basi nigrum, unde excurrit striga et subinde sesquialtera obsoleta fuscescens. Tunc fascia postica purpureo-fusca, quæ costam versus flavescit. Alæ posticæ ex rufo-fuscæ, ciliis rufis.

β. Alis fusco-purpurascentibus fuliginosis, fascia postica undulata saturatiore maculisque, duabus nigris.

Habitat in Norfolciæ Peridumetis, tempore oblito. Communicavit primò ejus captor Rev. J. Burrell. Exemplaria duo solum vidi.

Expansio alarum. 1 unc. 7 lin.

Descriptio. Alæ fuliginosæ. Maculæ trapeziformes nigræ, una ante, altera inter stigmata fuliginosa, margine tenuissime flavo solum conspicua. Posticæ alæ fusco-fuliginosæ, ciliis cinereis. Abdomen fuscum ani barbâ rufo-cinereâ.

N. (The double Square-spot) alis griseo-purpurascentibus atro maculatis; stigmatum marginibus strigisque quatuor pallidis nigro adnatis. *Sigma.* 190.

Noctua Sigma. Panz. Faun. Germ. cum icone.

Noctua Ditraperium. Hüb. Schmet. Noct. 24. 113.

Habitat cum præcedentibus. Imago, i. Aug.

Expansio alarum 1 unc. 7 lin.

Descriptio. Abdomen fuscum, ani barbâ rufâ. Alæ anticæ strigis quatuor ordinariis pallidis obsoletis; viz. duabus ante, duabusque aliis pone stigmata margine subluteo nigro adnato conspicua. Macula atra ante, alteraque inter stigmata ut in ultima: macula alia parva basi, et quatuor vel quinque costales, una parum major juxta apicem, exacte ut in N. Baja, quæ ad strigam quartam adtingat.

β. Alis albidis vel albicantibus, characteribus fere ut in α.

C. nigrum. 191. N. (The setaceous hebrew-character) alis fuscis lineola basi, aliaque costali sub apicem, arcuque grosso extus pallido, atris.

Noctua C. nigrum. Fab. Ent. Syst. 3. 65. 183.—*Hüb. Schmet. Noct.* 24. 111.

Phalæna N. C. nigrum. Lin. Faun. Suec. 1193—*Lin. Syst. Nat.* 2. 852. 162.

HABITAT. Imago i. Jun. Ripis, at rarius.

EXPANSIO alarum, 1 unc. 4-5 lin.

DESCRIPTIO. Sequenti simillima at omnino distincta, antennis setaceis. Thorax fuscus, antice pallidus. Alæ anticæ costâ a basi ad medium etiam pallidâ, strigis ordinariis fere obliteratis. Stigma anticum rotundum itidem pallidum in sinu arcûs, pallido costæ omnino confusum. Stigma reniforme griseum, basi nigricante, posticæ parti arcûs junctum. Alæ posticæ albido-lutescentes, margine ipso cinerascente.

gothica. 192. N. (The hebrew Character).

Bombyx gothicus supra, 119. 69.

OBS. As this species is now found to possess the true characters of a Noctua, it is here, notwithstanding its strongly pectinated antennæ, recapitulated.

plecta. 193. N. (The flame Shoulder) alis fusco-purpureis, costa a basi ad medium, strigmatibusque subflammeis.

Noctua plecta. Fab. Ent. Syst. 3. 65. 182.—*Hüb. Schmet. Noct.* 25. 117.

Phalæna Noctua plecta. Lin. Faun. Suec. 1216.—*Lin. Syst. Nat.* 2. 851. 157.

HABITAT. Imago, f. Jun.—i. Sept. Ripis at infrequens.

EXPANSIO alarum 1 unc. 3 lin.

DESCRIPTIO. Thorax fusco-purpurascens, antice pallidus. Alæ anticæ læte fusco-purpureæ, lineolâ atrâ basi, aliâque spiniformi in medio, priori fere junctâ, stigmatibus interruptâ. Stigma anticum exiguum est rotundum et album: posticum parvum cordiforme cinereum. Juxta marginem posticum striga undulata obsoletissima pallescens. Posticæ alæ albæ ciliis flavicantibus.

festiva. 194. N. (The ingrailed Clay) alis griseis subferrugineisve nebulosis, maculis angulatis saturatioribus nigrisve ad stigmata.

Noctua Festiva. Hüb. Schmet. Noct. 24. 114.

HABITAT. Imago i. Jul. peridumetis.

EXPANSIO

Expansio alarum 1 unc. 5 lin.
Descriptio. Variabilis species.
α. Thorax cinereus vel rufescens. Ani barba rufo-ferruginea. Alæ anticæ basin versus pallidiores, strigis duabus ordinariis punctoque ferrugineis vel fuscis: tunc stigmata ordinaria margine imperfecte fusco conspicua, maculâ quadrangulari ferrugineâ interjectâ. Subtus stigma anticum punctum nigrum: tunc alæ griseo ferrugineoque variæ sunt, strigis ordinariis duabus posticis confusis. In ipso margine ordo punctorum nigrorum, ciliis omnibus ferrugineis. Costa fusco pallidoque punctata ut in plurimis. Alæ posticæ cinerascentes lunulâ medio, strigâque pone medium, margineque saturatioribus. In basi stigmatis postici macula fusca.
β. Alis magis ferrugineis basin versus minus pallidis, strigis ordinariis posticis distinctioribus, macula atra jam trigona, jam subrhombea ante, alteraque quadrata inter stigmata; alis posticis fere fuscis striga pone medium saturatiore; cæteris ut in α.

N. (The rufous Clay) alis rufis vel rufo-purpureis, strigis ordinariis stigmatibusque pallidioribus. *subrufa.* 195.
Habitat cum præcedentibus.
Expansio alarum 1 unc. 5 lin.
Descriptio. Præcedenti valde affinis, at alæ in mare magis rufæ, characteribus omnibus obscurioribus, stigma reniforme dorso, maculæ oblongæ fuscæ adnatum. Fœmina purpurascit, stigmate postico superne flavicante. Cætera ut in N. festiva.

N. The Barred chesnut) alis griseo-ferrugineis macula inter stigmata fasciaque postica castaneis. *erythrocephala.* 196.
Noctua Erythrocephala. Hüb. Schmet. Noct. 37. 176.
Habitat apud nos rarissime, tempore oblito. Exemplarium unicum solum vidi.
Expansio alarum 1 unc. 4 lin.
Descriptio. Præcedentibus duabus certe affinis. Differt statura minore, maculâ inter stigmata rufo-castaneâ vix quadratâ, sed magis rotundâ, denique fasciâ fusco-castaneâ parum undulatâ inter stigmata et marginem posticum. Alæ posticæ perfuscæ, lunulâ in medio, nigrâ. Cætera ut in præcedentibus.

N. (The rosy-Rustic) alis roseis vel subfuscis, fusco-strigatis, medio saturatioribus. *cypriaca.* 197.
Noctua Cypriaca. Hüb. Schmet. Noct. 46. 244.
Habitat

HABITAT apud nos valde infrequens, tempore oblito. Imago Ripis.

EXPANSIO alarum 1 unc. 5 lin.

DESCRIPTIO. Alæ anticæ striga recta basi, secunda ante medium arcuata et costam versus unangulata; tunc stigma rotundum, et oblongo-reniforme, marginibus fuscis solum conspicua; et pone hæc usque ad strigam tertiam fascia fusca, quæ tamen costam vix attingit: tunc striga quarta postica undulata et fere omnino obliterata: tandem in ipso margine striga tenuissima fuscescens, ciliisque cinereo-fuscis tincturâ roseâ. Posticæ albidæ strigâ in medio fuscâ.

β. Alis magis fuscis et fere absque tincturâ roseâ: posticis cinerascentibus lunulâ mediâ, strigâque pone medium fuscis.

6-strigata. 198. N. (The 6-striped Rustic) alis griseo-roseis strigis sex fuscis.

HABITAT apud nos infrequens, Imago Peridumetis, m. Aug.

EXPANSIO alarum 1 unc. 5 lin.

DESCRIPTIO. Præcedenti valde affinis, at satis distincta; alæ apice rotundiores; striga secunda magis undulata: fascia pone stigmata deest, at strigam habet fasciæ formem a basi stigmatis postici ad marginem tenuiorem. Color inter stigmata usque ad costam saturatior est. Striga quarta pone stigmata magis arcuata: et striga quinta longe validior, et fere fasciæformis. Sexta striga est tenuissima in ipso margine postico. Alæ posticæ magis cinereæ, fimbriâ saturatiore.

punicea. 199. N. (The small Square-spot) alis griseo-roseis fusco strigatis, macula quadrata inter stigmata, aliaque costali sub apicem fuscis.

Noctua Punicea. Hüb. Schmet. Noct. 25. 115.

HABITAT infrequens prope Londinum. Imago Ripis, tempore oblito.

EXPANSIO alarum 1 unc. 3-4 lin.

DESCRIPTIO. Præcedentibus minor, strigis obsoletioribus. Stigmata ordinaria pallidiora marginibus sæpe lutescentibus. Pone stigmata striga ordinaria arcuata extus adnata maculæ quadratæ costali. Prope basin stigmatis antici punctum nigrum solitarium. Margo posticus parum fuscescit. Alæ posticæ cinerascentes, ciliis rufescentibus, ut in plurimis hujus sectionis.

β. Alis strigis validioribus, quarto fere ad stigmata, margine postico fasciâ tenui fuscâ.

OBS. This appears to be the same as the above-cited figure in Hübner's

Hübner's beautiful work: but it represents a larger and higher-colored specimen than ours, as indeed is frequently the case with his other figures.

15. CASTANEÆ. Alis plus minus castaneis, vel ferrugineis.

† Abdomine supra convexo.

N. (The bright-eyed Clay) Alis maris griseis, fœminæ rufis, puncto medio albo, strigaque arcuata postica punctorum minutissimorum fuscorum. *grisea.* 200.

Noctua grisea. Fab. Ent. Syst. 3. 69. 193.
Noctua unipuncta. Marsh. M. S.
Noctua unipunctina. Prod. Lep. Brit. 15.71.
HABITAT. Imago Peridumetis, i. Jul.
EXPANSIO alarum 1 unc. 5-6 lin.
DESCRIPTIO. Thorax maris griseus, fœminæ rufus, abdomine pallido. Alæ fere unicolores. Stigma anticum nullum, et tantum punctum album parvum loco basis stigmatis postici. Posticæ alæ fuscæ ciliis rufis.

N. (The Satellites) alis rufo-castaneis fusco strigatis, lunula media alba inter punctula duo etiam alba. *satellitia.* 201.

Noctua Sattellitia. Fab. Ent. Syst. 3. 87. 256.—*Hüb. Schmet. Noct.* 38. 182.
Phalæna Noctua satellitia. Lin. Syst. Nat. 2. 855. 176
HABITAT. Imago f. Sept. Peridumetis, infrequens.
EXPANSIO alarum 1 unc. 5-6 lin.
DESCRIPTIO. Abdomen valde depressum, cinereo-rufescens. Alæ strigis fuscis ordinariis fere ut in Noctua, sexstrigata, at marginali striga angulatim undata est. Stigma anticum deest; posticum exiguum album lunulæforme, punctulo parvo albo contiguo superne, alioque inferne. Posticæ alæ nigricantes ciliis rufis.
β. Lunula media punctisque duobus contiguis flavicantibus, nec albis.
γ. Lunula media punctisque duobus contiguis fuscis.

N. (The flounced Chesnut) alis rufis, fasciis duabus strigaque saturatioribus. *helvola.* 202.

Phalæna Noctua helvola. Lin. Faun. Suec. 1142.
Noctua rufina. Fab. Ent. Syst. 3. 33. 77.—*Hüb. Schmet. Noct.* 38. 184.

Noctua

Noctua ferruginea. Marsh. M. S.
Noctua ferrugina. Prod. Lep. Brit. 15. 74.
HABITAT. Imago peridumetis, m. Sept.
EXPANSIO alarum 1 unc. 4-5 lin.
DESCRIPTIO. Alæ basi fasciâ undatâ, tunc stigmata ordinaria obsoletissima pallidiora, et inter hæc striga saturatior: tunc fuscia latior postica, ex maculis oblongis confluentibus. Posticæ alæ fuscæ, costa late flavicante, margine postico ciliisque rufis.

lunosa. 203. *

N. (The lunar Underwing) alis griseo-rufescentibus striga valida postica punctorum nigrorum, posticis albis lineola maculisque tribus fuscis.
HABITAT in Com. Norf. communicavit amicus Rev. J. Burrell. Exemplaria duo solum vidi.
EXPANSIO alarum 1 unc. 5 lin.
DESCRIPTIO. Affinis præcedenti at longe pallidior. Stigmata ordinaria valida fusca, anteriore ovali introrsum spectante. Tunc striga subundata obsoletissima pallescens, strigaque alia punctorum nigrorum validorum; et inter hanc et strigam, color saturatior. In ipso margine postico striga alia punctorum fuscorum. Posticæ albæ, lineolâ basi, quæ terminat in lunula conspicua fusca medio alæ. Prope marginem posticum macula una alterave fusca. Striga ciliari interrupta nigra.

rubiginea. 204. * †

N. (The dotted Chesnut) alis ferrugineis punctis numerosis irregularibus fuscis.
Noctua Rubiginea. Hüb. Schmet. Noct. 38. 183.
HABITAT, apud nos rarissime.
EXPANSIO figuræ Hübneri. 1 unc. 3 lin.
OBS. I have seen an English specimen of this; but possess no regular description of it.

sphærulatina. 205.

N. (The beaded Chesnut) alis ferrugineis strigis numerosis punctorum nigrorum.
N. sphærulatoria. Marsh. M. S.
N. sphærulatina. Prod. Lep. Brit. 15. 75.
HABITAT, apud nos infrequens, Imago f. Sept. Peridumetis.
EXPANSIO alarum 1 unc. 4-6 lin.
DESCRIPTIO. Alæ ferrugineæ costâ fusco punctatâ strigisque decem vel duodecim punctulorum fuscorum: viz. una basi imperfecta, secunda ante medium geminata, quarta obscura a stigmate postico: tunc quinta undata geminata, et inter hanc et apices ciliarum quatuor vel sex aliæ confertæ,

at

at regulares et æquidistantes. Stigmata ordinaria oblonga divaricata, nigra, vel grisea. Alæ posticæ perfuscæ ciliis rufis.

Obs. This may possibly prove a variety of the preceding, and differs chiefly in having its spots disposed in a more regular manner.

N. (The pale Beaded-chesnut) alis pallide ferrugineis, strigis quinque obsoletissimis punctorum subfuscorum. *pistacina.* 206.

Noctua Pistacina. Hüb. Schmet. Noct. 28. 131.

Noctua sexpunctata. Marsh. M. S.

Noctua sexpunctina. Prod. Lep. Brit. 15. 76.

Habitat apud nos valde infrequens.

Expansio alarum 1 unc. 5 lin.

Descriptio. Præcedenti nimis affinis, et forte mera ejus varietas. Strigæ omnes obsoletissimæ et fere obliteratæ, at costa punctis validis fuscis, tribus in medio, quarto apicem versus: punctisque duobus aliis oblongis loco stigmatum divaricatorum. Posticæ fuscæ ciliis rufis.

N. (The dark Beaded-chesnut) alis saturatissime ferrugineis, strigis punctorum fasciisque duabus posticis fuscis. *lineola.* 207.

Phalæna lineola. Don. Brit. Ins. 360. f. 2.

Habitat apud nos infrequens.

Expansio alarum 1 unc. 3-5 lin.

Descriptio. Præcedentibus nimis affinis, et forte varietas; at alæ longe saturatiores sunt. Strigæ duæ obsoletissimæ punctorum fuscorum ante stigmata divaricata oblonga: striga tertia a stigmate postico: tunc fascia obsoletissima saturatior, aliaque in ipso margine. Cætera ut in penultima, at stigmata obsoletiora et fusco-brunnea.

Obs. As both the sexes of all the three preceding species are now before me, it has been judged best not to consider them as mere varieties of one species; although they may eventually so prove: and even the next article which is a male, may possibly also belong to them. A full knowledge of the Larvæ is the only circumstance that can enable us to decide satisfactorily. In an *extensive* collection, *naturally* arranged, the danger of mistaking a subdivision for a single species, and its supposed varieties, is greater than that of accepting real varieties for genuine species.

N. (The iron Chesnut) alis saturatissime ferreis punctis sex nigris. *ferrea.* 208.

Habitat rarissime apud Wisbeach. Exemplarium unicum solum vidi. Communicavit ejus captor Gul. Skrimshire.

Expansio alarum 1 unc. 3 lin.

Descriptio. Alæ saturatissime ferrugineæ unicolores, maculis sex nigris exceptis, in locis ipsis punctorum penultimæ speciès. Posticæ alæ nigræ ciliis rufis.

venosa. 209. * N. (The veiny Chesnut) alis sordide ferrugineis strigis duabus pallidioribus; margine postico late fuscescente venis ferrugineis obsolete intersecto.
Habitat apud nos valde infrequens.
Expansio alarum 1 unc. 4 lin.
Descriptio. Præcedentibus simillima at distincta. Alæ anticæ puncto imperfecto basi, tunc striga obsoleta pallida ante, alteraque arcuata pone stigmata oblonga obsoleta divaricata fulvo-cincta. Pone has strigas alæ fuscescunt usque ad cilia grisea. Striga fusca obsoleta excurrit oblique a basi stigmatis postici, usque ad strigam anticam in margine tenuiori, quæ huic speciei forte peculiaris est. Alæ posticæ fuscæ ciliis cinereis, nec rufis.

litura. 210. N (The brown-spot Pinion) alis griseo-fuscis, lituris seu punctis quinque costalibus nigris.
Noctua litura. Fab. Ent. Syst. 3. 108. 326.
Noctua Litura. Hüb. Schmet. Noct. 27. 127.
Phalæna Noctua litura. Lin. Faun. Suec. 1213.
Noctua costina. Prod. Lep. Brit. 15. 77.—*et liturina* App. 6.
Habitat infrequens apud nos. Imago f. Sept. Peridumetis.
Expansio alarum 1 unc. 3-5 lin.
Descriptio. Alæ litura costali transversa atra basi, alia etiam costali punctiformi ante medium, strigæ undulatæ simplici vel geminatæ sæpe connexa; tunc litura tertia et quarta opposita stigmatibus ordinariis fuscescentibus albido cinctis: ex his fasciola obsoleta subfusca subinde excurrit a costâ usque ad marginem tenuiorem: tandem litura costali quinta juxta apicem, quæ sæpe fasciam fuscescentem terminat in obsoletissimam at perfectam. Alæ ultra stigmata saturatiores: et stigma posticum semper saturatius. Posticæ alæ ciliisque fuscis.
Obs. This species accords pretty well with the above cited description in Fauna Suecica; but it is by no means the same insect as Noctua litura of the Linnæan Cabinet, which Dr. Smith has twice obligingly permitted me to examine.

rufa. 211. * † N. (The red-Chesnut) alis rufis, costa usque ad medium pallidiore, strigis quatuor undulatis stigmatibusque ordinariis obsoletiusculis: posticis fusco-rufescentibus ciliis rufis.

Noctua

Noctua rufa. Trans. Ent. Soc. Lond. pars 2, cum icone.
HABITAT in Anglia rarissime. Imago f. Mar. Urticetis. J. Hatchett.
OBS. This agrees in size with the preceding, but is very distinct. I have not yet satisfactorily ascertained it to be a described species: but suspect it to be in the works of Fabricius.

†† Abdomine valde depresso.

N. (The Chesnut) Abdomine depresso, alis ferrugineis venosis fusco strigatis, strigaque postica punctorum fuscorum. *Vaccinii.* 212.
Noctua Vaccinii. Fab. Ent. Syst. 3. 23. 51.—*Hüb. Schmet. Noct.* 37. 177.
Phalæna Noctua Vaccinii. Lin. Faun. Suec. 1212.—*Lin. Syst. Nat.* 2. 852. 166.
HABITAT. Imago m. Sept. Peridumetis.
EXPANSIO alarum 1 unc. 3-4 lin.
DESCRIPTIO. Antennæ, thorax, abdomen depressum, alæque anticæ obtusissimæ venis pallidioribus, sordide ferruginea; striga fusca pallido adnata ante, alteraque arcuata pone stigmata; præterea tertia striga fusca etiam arcuata inter stigmata: pone has strigas ordo punctorum fuscorum, cum duobus aliis obsoletis fere marginalibus quasi macularum; ultima harum in ipsis ciliis fusco-ferrugineis. Stigmata ordinaria margine saturatiore solum conspicua, at posticum basi nigrum est. Alæ posticæ fuscæ, ciliis rufis.

N. (The netted Chesnut) abdomine depresso, alis fusco-ferrugineis reticulatim pulverulentibus. *polita.* 213.
Noctua Polita. Hüb. Schmet. Noct. 37. 178.
Noctua nitida. Fab. Ent. Syst. 3. 31. 75?
HABITAT apud nos rarissime. Exemplarium unicum, solum vidi.
EXPANSIO alarum 1 unc. 3 lin.
DESCRIPTIO. Præcedenti omnibus simillima, sed alis magis fuscis, strigis venisque reticulatim cinereo-pulverulentibus.

N. (The dark Chesnut) abdomine depresso, alis fusco-spadiceis vix nebulosis, stigmate postico basi fusco. *spadicea.* 214.
Noctua Spadicea. Hüb. Schmet. Noct. 37. 179.
Noctua castanea. Marsh. M. S.
Noctua castanina. Prod. Lep. Brit. 15. 79.
HABITAT cum penultima, at longe rarior. Imago m. Sept. Peridumetis.
EXPANSIO alarum 3-4 lin.
DESCRIPTIO. Subspadicea alæ anticæ fere unicolores, at

paululum fusco subnebulosæ, costa postice punctis paucis pallidioribus ut in plurimis. Cætera ut in præcedentibus.

β. Minor, alis magis strigatim nebulosis.

subnigra. 215. N. (The black Chesnut) abdomine maris subdepresso, alis castaneo-nigris fascia pallida postica subinterrupta, ex maculis confluentibus.

HABITAT apud nos rarissime. Exemplaria duo solum vidi, unum ex ejus captore Rev. J. Burrell.

EXPANSIO alarum 1 unc. 3 lin.

DESCRIPTIO. Abdomen minus depressum quam in ultimis tribus, Thorax et alæ anticæ unicolores, costâ postice parum albido punctulatâ. Posticæ fuscæ, ciliis vix rufescentibus.

OBS. The last four autumnal species, and more especially their males, have the same depressedly-flattened abdomen as Noctua sattellitia; but they are far smaller, and have much rounder, and nearly retuse upper wings concolorous with the head and thorax: and their underwings are brown, with rufescent fringes.

16. AUREOLÆ. Alis plus minus aureis vel ferrugineis, strigis fasciisve saturatioribus, antennis ferrugineis.

ochraceago. 216. N. (The frosted Orange) alis aureis rufo dense irroratis, fasciis duabus rufo-fuscis.

Phalæna Noctua Ochracea. Hüb. Beit. 1. 1. 2. M.

Noctua flavago. Hüb. Schmet. Noct. 39. 186. et 187. nec flavago Fab.

Phalæna Lappæ. Don. Br. Ins. 10. 340. 1.

Noctua Lappina. Prod. Lep. Brit. 14. 55.

HABITAT. Larva in medullâ Arctii Lappæ. Puppa inter pabulum, Imago m. Sept. Lappaceis.

EXPANSIO alarum 1 unc. 6-7 lin.

DESCRIPTIO. Thorax cristatus cinereo-fuscus maculis quatuor ferrugineis. Alæ anticæ fasciâ rectâ rufo-fuscâ juxta basin, et vix ultra hanc strigâ obscurâ ferrugineâ; tunc stigmata ordinaria flava ferrugineo parum irrorata; subtus hæc, stigma tertium exacte parabolicum et strigæ superdescriptæ connexum: tandem fascia postica rufo-fusca extus dentata, intus marginata lunulis obsoletis confluentibus aureis. Inter hanc fasciam et marginem posticum, color saturatior quam ante fasciam, sed apex flavescit. Cilia rufo-fusca. Posticæ alæ albidæ lunulâ mediâ, strigis duabus obsoletis fuscea-

fuscescentibus, strigâque aliâ lunulatâ ipso margine, et ciliis cinereo-fuscis.

N. (The bordered Sallow) alis ferrugineis strigis rufo-fuscis, posticis luteo-albidis, basi, lunula media, fimbriaque fuscis. *marginago.* 217.

Noctua marginata. Fab. Ent. Syst. 3. 88. 260.—*Syst. Ent.* 610. 85. *Spec. Ins.* 2. 230. 108.—*Mant. Ins.* 2. 166. 209.—*Donov. Br. Ins. t.* 150.

Noctua marginago. Prod. Lep. Brit. 14. 64.

HABITAT in Cantio, at valde infrequens.

EXPANSIO alarum 1 unc. 6 lin.

DESCRIPTIO. Strigæ alarum subæquidistantes, prima basi extus parum arcuata, secunda flexuosim biangulata; tertia extus angulatim arcuata inter stigmata ordinaria, marginibus fusco-rufis solum conspicua: quarta magis obliqua, et pone hanc color paulo saturatior: tunc striga quinta quasi ex lunulis vel arcubus fuscis: demum sexta striga tenuissima in ipso margine postico: denique cilia cinerascentia, apicesque eorum læte purpurei. Fimbria fusca posticarum alarum, strigâ cinereo-rufâ terminata est, ciliisque albidis.

β. Alis anticis a basi ad strigam secundam paulo saturatioribus quam in medio.

Noctua rutilago. Fab. Ent. Syst. 3. 75. 214.—*Hüb. Schmet. Noct.* 39. 185. *Prod. Lep. Brit.* 14. 62.

OBS. Mr. Donovan, under this species in his British Insects, criticises the great entomologist Fabricius, for happening to give the name of marginata to an American Noctua, (since altered to marginella) whilst it was occupied by the present species; a most easy oversight this, amidst such an immensity of specific names. Fabricius, however, afterwards committed a greater error concerning this insect, in enumerating Noctua rutilago without making marginago synonymous, for it hardly appears to amount even to a variety.

When the Prodromus was printing I possessed but one bad specimen of rutilago, with the shoulder very slightly dark; and another still worse, but answering better to Mr. Donovan's figures, so readily fell into the mistake which is above rectified.

N. (The barred Sallow) alis aureis rufo-nebulosis, fasciis duabus rufescentibus. *aurago.* 218.

Noctua aurago. Fab. Ent. Syst. 3. 74. 211.—*Hüb. Schmet. Noct.* 41. 196. *et* 197.

Noctua Rutilago. Hüb. Beit. 1. 2. *fig.* L.

HABITAT,

HABITAT, apud nos infrequens, Imago f. Aug.? Sylvaticis.

EXPANSIO alarum 1 unc. 4-5 lin.

DESCRIPTIO. Thorax rufus. Alæ parum-nebulosæ, fasciâ lobata basi: stigmata ordinaria macularia rufa. Margo posticus fasc.â latâ crenulatâ rufescente, medio (fasciæ) strigâ aureâ quæ striga ad apicem dilatata est in maculam flavam. Posticæ alæ albidæ strigâ posticâ margineque ciliari rufis.

β. Alis fascia postica saturatiore.

centrago. 219.

N. (The centre-barred Sallow) alis aureis medio fascia unangulata margineque postico subfuscis.

* † HABITAT apud nos rarissime.

EXPANSIO alarum

OBS. I possess no regular description of this rare and beautiful species, which is very closely allied to the Noctua Xerampelina of Hübner; exists in the rich cabinet of Mr. Francillon, and has lately been taken in Norfolk by an acute entomologist, my friend the Reverend T. Skrimshire, F. E. S.

flavago. 220.

N. (The pink-barred Sallow) thorace antice subfusco, alis aurantiis, punctis, maculis, fasciaque maculosa obliqua pone medium, purpurascentibus.

Noctua flavago. Fab. Ent. Syst. 3. 76. 218.

Noctua Silago. Hüb. Beit. Noct. 40. 191.

HABITAT apud nos infrequens. Imago f. Sept. Sylvaticis.

EXPANSIO alarum 1 unc. 4 lin.

DESCRIPTIO. Caput et thorax cristatus antice, fusco-rufescentia, thorax postice aurantius. Alæ macula magna prope basin, litura in medio, punctis variis costalibus, punctisque aliis variis, et præcipue transversis purpurascentibus, ciliis purpureis. Stigmata ordinaria propria desunt, sed in loco basis postici punctum rotundum fuscum. Alæ posticæ albæ, ciliis flavicantibus.

fulvago. 221.

N. (The common Sallow) alis læte aureis nebulosis, fasciis duabus maculosis valde interruptis rufo-fuscis.

Noctua fulvago. Fab. Ent. Syst. 3. 73. 208.

Noctua Cerago. Hüb. Schmet. 94. 444.

Phalæna Noctua fulvago. Lin. Faun. Suec. 1173.

Noctua rubago. Donov. Brit. Ins. 388. 21. sed longissime pulchrior quam nostris exemplaribus.

HABITAT cum præcedente. Imago frequens f. Sept. Sylvaticis.

EXPANSIO alarum 1 unc. 4 lin.

DESCRIPTIO. Caput et thorax cristatus læte aurea, punctis duobus rufis. Alæ fasciâ basi subinterruptâ; tunc nebulæ variæ: tunc fascia pone medium valde interrupta ex maculis, strigisque confluentibus lunularum subrufarum, terminata ordine punctorum conspicuorum fuscorum prope apicem. Alæ posticæ albæ, ciliis sulphureis.

OBS. Mr. Donovan thinks his Phalæna rubago is "new and undescribed" and unique; but it appears to me to be merely the common Sallow, the fulvago of Linnæus.

β. Alis anticis omnino pallidioribus.

Noctua Cerago. Hüb. Schmet. Noct. 40. 190.

HABITAT apud Coomb Wood. Imago f. Sept. Sylvaticis, Varietas vix casualis.

γ. Alis fasciis magis confluentibus, saturatioribus.

N. (The lemon Sallow) alis sulphureis fulvo vix nebulosis, puncto pone medium strigaque postica punctulorum fuscorum. *gilvago.* 222.

Noctua gilvago. Fab. Ent. Syst. 3. 76. 219.

Noctua Cerago. Hüb. Schmet. Noct. 94. 445.

HABITAT apud nos rarissime, Imago. Exemplaria quatuor solum vidi.

EXPANSIO alarum 1 unc. 3-4 lin.

DESCRIPTIO. Præcedenti certe affinis, at longissime pallidior, et absque fasciis maculosis, et fere absque nebulis; puncto sive annulo incompleto loco basîs stigmatis postici; strigaque juxta apicem ex punctis circiter sex fuscis minutissimis. Posticæ ciliisque absolute albis.

N. (The dusky Sallow) alis cinereis fasciis tribus fuscis, posticis fimbria nigra. *citrina.* 223.

Noctua citrina. Don. Br. Ins. 10. 340. 2.

HABITAT apud nos rarissime. Imago Jul. Ericetis. Communicaverunt ejus captores, C. Abbott, D. D. et Dom. W. J. Hooker.

EXPANSIO alarum 1 unc. 4-5 lin.

DESCRIPTIO. Alæ anticæ cano cinereoque variæ, puncto fusco costali basi; tunc macula fusca quadrata etiam costalis quasi fascia abbreviata, tunc fascia transversa valde interrupta, tandem fascia tertia postica oblique transversa. Cilia alba cinereo maculata. Posticæ fuscescentes seu cinereæ fimbriâ nigrâ, ciliis albis.

OBS. Having seen the specimens from whence the above-cited figure

figure was taken, I believe I am correct in citing it: but it does not by any means accord with my specimens.

renago. 224. N. (The dark heart Moth) alis fusco ferrugineoque variis, stigmatibus tribus, basi et medio costæ, fasciaque marginali flavis.

Noctua renata. Fab. Ent. Syst. 3. 85. 251.

HABITAT apud nos valde infrequens.

EXPANSIO alarum 1 unc. 4 lin.

DESCRIPTIO. Sequenti simillima, at vix eadem, alis longe saturatioribus. Flavedo costæ secta est lineolâ ferrugineâ basi, tribusque aliis in medio. Fascia marginalis composita est ex maculis regularibus confertis, at distinctis. Stigma anticum rotundum, posticum cordiforme, tertium lineola crassa est. Alæ posticæ albæ.

ferruginago. 225. N. (The heart Moth) alis flavicantibus ferrugineo varie fasciatis, strigatis et subreticulatis, stigmatibus tribus flavis, postico cordiforme.

Noctua Ferruginago. Hüb. Schmet. Noct. 41. 195.

Noctua Oo. Fab. Ent. Syst. 3. 84. 247.

Phalæna Bombyx Oo. Lin. Faun. Suec. 1139.

HABITAT apud nos infrequens. Imago Mai. Truncis.

EXPANSIO alarum 1 unc. 4 lin.

DESCRIPTIO. Præcedenti nimis affinis, at pallidior, præcipue in medio anticarum alarum. Alæ posticæ albæ. Antennæ maris nudo occulo pectinatæ.

citrago. 226. N. (The orange Sallow) alis læte et saturate ferrugineis, strigis marginibusque stigmatum rufo-fuscis.

Noctua citrago. Fab. Ent. Syst. 3. 75. 215.—*Hüb. Schmet. Noct.* 39. 188.

Phalæna Noctua citrago. Lin. Faun. Suec. 1174.

HABITAT infrequens, Larva in Tiliâ. Imago. i. Aug. Tiliaceis.

EXPANSIO alarum 1 unc. 4 lin.

DESCRIPTIO. Strigæ et stigmata exactè ut in N. marginago, at striga quinta et sexta ejus fere omnino obliteratæ sunt. Posticæ alæ luteo-albidæ.

croceago. 227. N. (The orange Upperwing) alis stigmatibusque aurantiis, strigis punctisque fuscis, abdomine maris prædepresso.

Noctua croceago. Fab. Ent. Syst. 3. 73. 209.—*Hüb. Schmet. Noct.* 40. 189.

Phalæna Noctua Fulvago. Hüb. Beit. t. 1. f. F.

Phalæna aurantiago. Don. Br. Ins. 150. *figura superior.*

OBS.

HABITAT apud nos, at infrequens, Imago, f. Feb. f. Ap. f. Jun. Sylvaticis; et forte autumno, et per hyemem Siccifoliis.
EXPANSIO alarum 1 unc. 4 lin.
DESCRIPTIO. Thorax valde cristatus fusco-rufus. Costa anticarum punctis sex conspicuis albis subæquidistantibus, at pone stigmata immunis. Alæ ante stigmata vix strigatæ, sed tantum puncto vel nebulâ unicâ alteráve fuscâ. A basi stigmatis postici, striga obliqua fusca, aliaque postica obsoleta inter ordines duos punctorum fuscorum. Posticæ albæ undula transversa in medio rosea, at sæpe obsoleta.
OBS. Mr. Donovan thinks that the last cited figure "is certainly a nondescript," and it possibly may be so, for it is very much smaller than any of the numerous specimens I have inspected, of this species, only measures an inch in expanse; and likewise differs in some other respects.

N. (The angle-striped Sallow) alis aureis, striga unangulata ante, alteraque pone stigmata ordinaria subferrugineis. *angulago.* 228.
Noctua angulago. Trans. Ent. Soc. Lond. pars 2, cum icone.
N. Fulvago. Hüb. Schmet. Noct. 41. 198. 199. nec. Linnæi.
HABITAT apud nos rarissime, Imago f. Jul. Sylvis.
EXPANSIO alarum 1 unc. 6 lin.
OBS. I have only seen three English specimens of this fine species.

N. (The brown-line Bright-eye) alis ferrugineis puncto trigono medio albissimo inter strigas duas fuscas. *conigera.* 229.
Noctua conigera. Fab. Ent. Syst. 3. 113. 341.—*Hüb. Schmet. Noct.* 46. 222.—Hüb. Beït. 4.4. f. Z.
HABITAT, apud nos vix frequens, Imago f. Jul. Peridumetis.
EXPANSIO alarum 1 unc. 4 lin.
DESCRIPTIO. Caput, thorax, alæque ferruginea. Stigmata ordinaria obsoletissima pallidiora; conâ parvâ albissimâ a basi stigmatis postici introrsum spectante. Striga fere rectangulata ante medium, alteraque obliqua postica paululum undulata. Cilia omnia alæque posticæ plus minus ferruginea, basi sæpe parum albicantia.

N. (The brick Moth) alis testaceis strigis quatuor saturatioribus, punctoque fusco basi stigmatis postici. *macilenta.* 230.
Noctua Macilenta. Hüb. Schmet. Noct. 89. 418.
Noctua unimaculina. Prod. Lep. Brit. 15. 70.
HABITAT, Imago. Sept. Ulmosis, infrequens.
EXPANSIO alarum 1 unc. 5 lin.
DESCRIPTIO. Antennæ masculinæ paulo pectinatæ, caput, thorax,

thorax, alæque anticæ testaceæ, strigis obsoletissimis, primâ basi sæpe evanescente, secundâ flexuosâ ante, tertiâ ex arcubus evanescentibus pone stigmata, quartâ posticâ parum undulatâ cæteris magis conspicuâ rufescente, pallido paululum marginatâ. Stigmata ordinaria marginibus solum conspicua, at posticum basi fuscum. Inter hæc striga subfusca obsoleta at cæteris crassior transit a costâ ad marginem tenuiorem. Posticæ alæ fuscæ lunulâ medio saturatiore, costâ late albidâ, ciliis rufis.

Obs. Since the Prodromus was printed I have received Hübner's figure, but not letter-press of this species.

erythrostigma. 231.

N. (The red Dot) alis griseo-rufescentibus, strigis variis tenuissimis saturatioribus, stigmate rotundo, reniformique rufis.

Habitat. Pupa in Equino stercore in Pascuis. Imago Autumno. Prope Londinum rarissime; apud Margate frequentior: J. Hatchett.

Expansio alarum 1 unc. 4 lin.

Obs. Antennæ setaceæ crassæ. Alæ posticæ subfuscæ ciliis rufescentibus. Statura sequentis cui valde affinis, at major, atque distincta. Stigma anticum subinde fere obliteratum est.

auricula. 232.

N. (The golden Ear) alis fusco-ferrugineis obsolete auratis, fusco strigatis, stigmate reniformi albo-aureo.

Noctua Auricula. Don. Br. Ins. 397. 3.

Noctua Chrysographa. Hüb. Schmet. Noct. 46. 221.

Noctua nictitina. Prod. Lep. Brit. 18. 150.

Habitat apud nos valde infrequens, Imago i. Aug. Peridumetis.

Expansio alarum 1 unc. 2-3 lin.

Descriptio. Alæ anticæ certo situ auro paulo micantes, strigis undulatis vel flexuosis obsoletis subfuscis circiter sex subæquidistantibus, at sæpe plus minus evanescentibus; stigma anticum rotundum parvum obscurum aureo-brunneum; posticum magnum reniforme albo-aureum, intus quasi brunneo marginatum. Posticæ nigræ ciliis fuscis.

Obs. This is probably not specifically distinct from Noctua nictitans. From its reniform stigma being of the colour of pure gold, it has obtained amongst collectors, appropriately enough, the appellation of the golden Ear.

17. SIMPLICES. Antennis masculinis plus minus pectinatis, alis inornatis, sæpe fere unicoloribus, strigis duabus obscuris.

OBS. As all the articles of this section, notwithstanding their pectinated antennæ, are at length known to possess the spiral tongue, and proper palpi of true Noctuæ; they are here so given; and such of them as have already been printed in the former part of this work are recapitulated, for reasons advanced in preceding observations.

N. (The blossom Underwing) alis rufo-cinerascentibus fascia strigaque subminiaceis, posticis roseis. *miniosa.* 233.
Noctua Miniosa. Hüb. Schmet. Noct. 36. 174.
Noctua serrata. Marsh. M. S.
Noctua serratina. Prod. Lep. Brit. 15. 69.
HABITAT apud nos infrequens, Imago f. Mar. Ripis.
EXPANSIO alarum 1 unc. 4. lin.
DESCRIPTIO. Antennæ maris valde, fœminæ paulo pectinatæ, rufæ. Caput, et thorax etiam rufa. Alæ anticæ pallide rufescentes vel cinerascentes, strigâ basi exiguâ rufâ; tunc fascia (stigmata ordinaria fusca includens) lata rufa superne multo latior, sed marginem crassiorem vix attingit, utraque marginata striga duplici fusca, et pallida. Inter hanc et marginem posticum præcipue in fœmina striga ex punctis confertis rufis pallido extus parum adnatis. Denique ciliæ rufo-cinereæ. Posticæ alæ roseæ, et præcipue in fœmina lunula medio, strigaque interrupta fusca pone medium; et in ipso margine striga alia quasi ex lunulis rufis, ciliis saturate roseis.

N. (The dark Drab.) *fuscata.* 234.
Bombyx fuscatus, supra. 122. 76.

N. (The narrow-winged Drab.) *angusta.* 235.
Bombyx angustus, supra, 122. 77.

N. (The clouded Drab.) *subsetacea.* 236.
Bombyx subsetaceus, supra, 120. 72.
Noctua pulla. Beck. Lin. Tr. 2. 5. *cum fig.?*

N. (The scarce clouded-Drab.) *nebulosa.* 237.
Bombyx nebulosus, supra, 120. 71.

Noctua instabilis, lævis alis deflexis griseis fascia media ferruginea. *Fab. Ent. Syst.* 3. 44. 110.

OBS. It is extremely probable that all the four preceding articles (which I now possess) belong to one inconstant and most variable species: and the above expressive Fabrician name alone gives strength to such a supposition: as yet, however, their larvæ are unknown to me, and I do not possess the necessary connecting varieties to justify the uniting of them.

sparsa. 238. N. (The powdered Quaker.)
Bombyx sparsus, supra, 122. 79.

lota. 239. N. (The Red-line Quaker.)
Bombyx lotus, supra, 122. 78.
Noctua munda. Hüb. Schmet. Noct. 35. 167. nec Fab.

geminata. 240. N. The twin-spotted Drab.)
Bombyx geminatus, supra, 121. 73.
Noctua munda. Fab. Ent. Syst. 3. 48. 129.

bimaculata. 241. (The ferruginous Drab.)
Bombyx bimaculatus, supra, 121. 74.
OBS. The specimen from whence this was described still exists in Mr. Jones's collection, under the manuscript name of Bombyx trimacularis: but I have lately procured a german insect nearly intermediate between it and geminata, which would probably authorize their being all considered as one species.

subplumbea. 242. N. (The lead-coloured Drab.)
Bombyx subplumbeus, supra, 121. 75.
Noctua gracilis. Fab. Ent. Syst. 3. 48. 132?—*Vill. Ent.* 4. 461.
Noctua gracilis. Hüb. Schmet. Noct. 35. 168.—*Fem. est. N. gracillina. Prod. Lep. Brit. Addend.* 3. 9.
OBS. Hübner's beautiful figures of this, and various other species of the present section, without letter press, have reached me since the foregoing part of this work was printed, or they would have been therein cited.

pallida. 243. N. (The pale Quaker) alis uniformiter pallescentibus, striga postica rufa extus albida, aliaque punctorum, stigmatibus pallido marginatis.
HABITAT apud nos rarissime. Exemplaria duo solum vidi.
EXPANSIO alarum 1 unc. 5 lin.
DESCRIPTIO. Alæ ex rufo-fusco-pallidæ fere unicolores. Stigmata

mata ordinaria (exterius subcordiforme) margine tenuissime pallido solum conspicua. Inter hæc et marginem posticum striga obliqua nec flexa, rufa extus pallida, ordineque punctorum minutissimorum fuscorum fere ad marginem posticum. Cilia exigua cinerea. Posticæ fere saturatiores, ciliis triplo longioribus parum rufescentibus.

N. (The common Quaker.) *cerasi.* 244.
Bombyx Cerasus, supra, 123. 80.
Noctua stabilis. Fab. Ent. Syst.
Noctua stabilis. Hüb. Schmet. Noct. 36. 171.

N. (The Yellow-line Quaker) alis rufescentibus, striga postica obliqua rectissima flavicante intus rufa, punctoque basi fusco. *flavilinea.* 245.
HABITAT in Com. Norf. Communicavit amicus Rev. J. Burrell. Exemplaria quinque solum vidi.
EXPANSIO alarum 1 unc. 5 lin.
DESCRIPTIO. Simillima precedenti. Antennæ maris hirto pectinatæ, nec radiis validis. Alæ anticæ minus venosæ. Stigmata ordinaria magis distantia et lente obsolete flavicantia, basi postici sæpe fusco. Striga postica magis recta, magisque flava, sed ad costam obsoletior et parum geniculata. Alæ posticæ longe saturatiores, barbâ abdominis ciliisque magis rufis.

N. (The red-ringed Quaker) alis rufo-fuscis striga postica rufa extus pallida, stigmatibus liberis rufo-marginatis. *rufannulata.* 246.
HABITAT apud nos rarissime. Exemplaria duo solum vidi.
EXPANSIO alarum 1 unc. 3-4 lin.
DESCRIPTIO. Præcedenti valde affinis, at differt notabiliter ut in charactere specifico. Alæ posticæ præcipue in mare, nigricantes, ciliis fuscis; nec rufis ut in illa. Cætera simillima. Sequenti differt stigmatibus liberis nec junctis, antennis masculinis longioribus, magisque pectinatis.

N. (The conjoined Quaker.) *juncta.* 247.
Bombyx junctus, supra, 123. 81.

N. (The plain Quaker) tota pallide rufescens immaculata, alis posticis palljdioribus vel albicantibus. *concolor.* 248.
Noctua concolorina. Prod. Lep. Brit. 19. 167.
HABITAT apud nos ratissime. Exemplaria duo solum vidi.
EXPANSIO alarum.

N. (The

nana. 249. N. (The small Quaker.)
Bombyx nanus, supra, 123. 82.
Noctua ambigua. Fab. Ent. Syst. 3. 48. 131 ?
Noctua ambigua, Hüb. Schmet. Noct. 36. 173.
Noctua ambiguina. Prod. Lep. Brit. Addend. 3. 8.

pusilla. 250. N. (The dwarf Quaker.)
Bombyx pusillus. supra, 124. 83.

18. ORNATÆ. Alis sæpe angulatis, rubro, luteo, purpureove perpulchre notatis.

meticulosa. 251. N. (The Angleshades) alis eroso-dentatis roseo-albidis, fascia triangulari medio purpurascente.
Noctua meticulosa. Fab. Ent. Syst. 3. 83. 242.—*Hüb. Schmet. Noct.* 14. 67.
HABITAT frequens Larva in plantis herbaceis variis. Imago i. Mai, i. Jun. i. Sept.
EXPANSIO alarum 2 unc.
DESCRIPTIO. Alæ anticæ basi macula majuscula sub-dolabriformi fuscescente marginis tenuioris: fascia medio obconica fusco roseoque varia, in qua stigmata ordinaria obsoleta auriformia rosea. Margo posticus subolivaceus apice roseo, puncto sublunato fusco juxta apicem. Posticæ albidæ venis, lunulâ in medio, strigâque pone medium, alteráque juxta marginem posticum fuscescentibus. Margo lutescit, ciliis subustulatis.

libatrix. 252. N. (The Herald.)
Bombyx libatricus, supra, 98. 23.
OBS. This species would probably best arrange near the preceding, notwithstanding its pectinated antennæ.

derasa. 253. N. (The buff Arches) alis derasis fusco griseoque variis, fascia transversa alba, transversim flexuosa a basi ad apicem.
Noctua detesa. Fab. Ent. Syst. 3. 85. 250.—*Hüb. Schmet. Noct.* 14. 66.
Phalæna Noctua derasa. Lin. Syst. Nat. 2. 851. 158.
HABITAT apud nos infrequens. Imago i. Aug. Peridumetis.
EXPANSIO alarum 1 unc. 7-8 lin.
DESCRIPTIO. Alæ anticæ quasi parum derasæ, fasciâ tenui albâ a basi oblique ad marginem crassiorem, inde, etiam oblique ad angulum ani, et tunc illinc sed paulo interruptim,

tim, usque ad apicem, ubi imperfecte furcata est. Pone medium in sinu fasciæ, fascia alia obconica magna brunneo cinereoque varia, quæ continet stigmata ordinaria albo cincta; spatium album costale; puncta fulva alba nigraque costalia; et fornices contrarios fuscos cinereosque intricatos tenuissimos. In ipso margine postico striga alba ex arcubus obtusis concinnè connexis. Posticæ fuscæ tincturâ rufedinis.

N. The Peach-blossom) alis fuscis maculis subrotundis quinque sesquialtera roseis. *batis.* 254.

Noctua Batis. Fab. Ent. Syst. 3. 30. 73.—*Hüb. Schmet. Noct.* 14. 65.

Phalæna Noctua Batis. Lin. Faun. Suec. 1158.—*Lin. Syst. Nat.* 2. 836. 97.

HABITAT apud nos infrequens. Imago, m. Jun. m. Jul. Peridumetis.

EXPANSIO alarum 1 unc. 6-7 lin.

DESCRIPTIO. Corpus subgracile. Maculæ roseæ alarum primarum medio sæpe fuscescunt, prima basi cæteris major irregularis; secunda minor fere opposita marginis tenuioris; duæ aliæ fere junctæ costales ad apicem; alia opposita anguli ani; aliaque cæteris decuplo minor vix pone ultimam. Posticæ alæ fuscæ.

19. ARCUATO-STRIGATÆ. Alis strigis sæpe valde arcuatis.

N. (The dark Spectacle) alis griseo-fuscis basi pallidioribus, arcu duplici contrario, stigmatibus tribus pallidioribus. *triplacea.* 255.

Noctua triplacea. Fab. Ent. Syst. 3. 117. 254.

Phalæna Noctua triplacea. Lin. Faun. Suec. 1202.

Noctua Asclepiades. Hüb. Schmet. Noct. 55. 268.

HABITAT apud nos infrequens.

EXPANSIO alarum 1 unc. 4-5 lin.

DESCRIPTIO. Thorax cristatus antice maculis duabus obscuris vix ocellaribus fuscis. Alæ griseo-fuscæ basi obscure griseo-ferrugineæ, strigis duabus arcuatim contrariis nigris griseo-marginatis; prima antica, altera postica, stigmata obsoletissima pallescentia includentes. Stigma anticum auctum sive elongatum est, et quasi didymatum. Pone strigam secundam, striga alia obsoletissima pallescens ex punctis paucis pallidis incompletis. Lineolæ duæ nigræ infra

infra costam fere ad apicem. Cilia fusca. Posticæ cinereæ fimbriâ nigrâ, ciliis flavicantibus.

Asclepiades. 256. N. (The light Spectacle) alis nebulosis glauco fuscoque variis, medio saturatioribus, strigis duabus contrariis, stigmatibus tribus glaucescentibus.

Noctua Asclepiades. Fab. Ent. Syst. 3. 117. 355.

Noctua Triplacea. Hüb. Schmet. Noct. 55. 269.

HABITAT. Imago f. Jul. Ripis, præcedente frequentior.

EXPANSIO alarum 1 unc. 4-5 lin.

DESCRIPTIO. Præcedenti simillima ut ovum ovo, at distincta. Maculæ subocellares thoracis distinctiores, pulchriores. Alæ basi albidiores absque tincturâ ferrugineâ. Stigmata pallidiora, anticum similiter auctum, at minus didymatum. Striga secunda minus arcuata, strigaque juxta apicem minus ex punctis, sed latior et fasciam quasi farinosam format, quæ tamen striga tenuis tantum est marginem crassiorem versus, ubi secat lineolas duas subinde confluentes nigras. Cætera priore convenit.

OBS. One of the above spectacle Moths is figured by Donovan in his British Insects, but I am quite unable to decide which.

trapetzina. 257. N. (The Dun-bar) alis griseis, flavicantibus vel rufescentibus strigis saturatioribus, puncto medio nigro, margineque postico nigro punctato.

Noctua Trapetzina. Fab. Ent. Syst. 3. 44. 117.

Phalæna Noctua trapetzina—Lin. Faun. Suec. 1157.

HABITAT. Imago i. et f. Aug. Peridumetis.

EXPANSIO alarum, 1 unc. 4-5 lin.

DESCRIPTIO. Variat,

α. Alis griseo-cinereis striga exigua fusca basi, secunda obliqua albido intus marginata ante, tertiaque arcuata extus albida, pone stigmata grisea obsoleta. Striga alia crassior a costâ inter stigmata ad marginem tenuiorem. Quinta obsoletior quasi ex punctis trigonis confluentibus: denique ordo punctorum parvorum ipso margine, ciliisque cinereis. Præterea punctum fuscum basi stigmatis postici. Posticæ alæ fuscæ costâ latè flavicante, ciliis rufis.

β. Alis flavicantibus, strigis ordineque marginali punctulorum obsoletioribus: colore inter strigam in medio alarum, sæpe saturatiore.

γ. Alis rufis inter strigas in medio alarum saturatioribus, cæteris ut in α.

Noctua Trapetzina. Hüb. Schmet. Noct. 42. 200.

N. (The

N. (The lesser spotted Pinion) alis ferrugineis, griseo-fuscisve, strigis duabus albis, punctoque nigro geminato apicis. *affinis.* 258.

Noctua affinis. Fab. Ent. Syst. 3. 87. 258.—*Hüb. Schmet Noct.* 42. 201.

Phalæna Noctua affinis. Gmel. Syst. Nat. 2563. 144.

HABITAT. Imago f. Jul. Peridumetis.

EXPANSIO alarum 12-13 lin.

DESCRIPTIO. Variat.

α. Var. γ. Præcedentis simillima. Alæ anticæ ferrugineæ, interdum strigâ abbreviatâ basi, tunc aliâ flexuosâ ante, alterâque arcuatâ pone medium: et inter has strigâ aliâ obsoletâ fuscâ, subindeque punctis tribus etiam obsoletis, triangulatim positis, primo puncto loco stigmatis antici, secundo tertioque locis basis et apicis stigmatis postici. Ad apicem sæpe punctum geminatum nigrum. Posticæ nigræ, ciliis rufis, subtus fuliginosæ fimbria atra.

β. Alæ anticæ griseo-fuscæ, strigis tribus, maculâque geminatâ costali albis. Forte propria species, strigæ albidiores, validiores, postica extus connata ad maculam geminatam costalem, quæ macula terminat in punctis duobus nigris contiguis fere in apice. Posticæ nigræ ciliis luteis.

γ. Macula alba costali fere obliterata, cæteris ut in β.

N. (The lunar-spotted Pinion) alis rufo-purpureis strigis saturatioribus præundatis, lituraque postica sublunari costali alba. *Pyralina.* 259. †

Noctua Pyralina. Hüb. Schmet. Noct. 42. 203.

HABITAT prope Londinum rarissime. In Museo J. Hatchett solum vidi.

EXPANSIO alarum 16 lin.

DESCRIPTIO. Præcedenti valde affinis, at satis distincta. Fere duplo major, striga secunda magis undata.

Caput, antennæ, thorax, pedes, abdominisque barba, rufa. Abdomen ipsum fuscum uti alæ posticæ nitentes. Cilia luteo-rufa. Subtus alæ posticæ pallidæ, striga media fusca pone punctum ordinarium fuscum.

N. The white-spotted Pinion) alis brunneo-roseis, strigis tribus rubicundis, maculis tribus costalibus albis, punctoque geminato apicis nigro. *diffinis.* 260.

Noctua diffinis. Fab. Ent. Syst. 3. 87. 257.—*Hüb. Schmet. Noct.* 42. 202.

Phalæna Noctua diffinis. Gmel. Syst. Nat. 2563. 146.

HABITAT, apud nos infrequens. Imago m. Aug. Truncis.

EXPANSIO alarum 15-16 lin.

DESCRIPTIO. Præcedentibus valde affinis at alia, longe pulchrior.

chrior. Penultima major. Alæ præcipue marginem tenuiorem versus roseæ, vel pallide rubicundæ; costam versus magis roseo-brunneæ. Maculæ albæ costales majores, at prima exigua brevis et strigæformis: secunda connexa ad strigam primam perfectam, quæ extus nigra est, at striga proxima intus nigra: et tertia læte rubicunda absque nigredine gaudet. Posticæ perfuscæ ciliis fulvis.

Delphini. 261. N. (The Pease-blossom) alis læte rubicundis, Fascia trilobata basi alia angusta postica, strigaque geminata saturatioribus.

Noctua Delphinii. Fab. Ent. Syst. 3. 90. 267.—*Hüb. Schmet. Noct.* 42. 204.—Panz. Faun. Germ. 7. Fab. 17.

Phalæna Noct. Delphinii. Lin. Syst. Nat. 2. 857. 188.

Wilks Pap. 3. *t.* 1. *a.* 4.

Ræs. Ins. 1. *Phal.* 2. *tab.* 12.

HABITAT apud nos rarissime prope Londinum. Larva in Delphinio. Imago. Jun. Jul. Hortis.

EXPANSIO alarum 15-16 lin.

DESCRIPTIO, ex exemplaribus germanicis formosissimis. Alæ anticæ ipsâ basi, fasciâ latiusculâ trilobatâ lætissime, rubicundâ, fusco et albo tenuiter terminatâ. Stigma anticum deest, posticum maximum fuscum vel fusco-purpureum, et a basi ejus striga obsoleta purpurea excurrit ad marginem tenuiorem. Tunc fascia angusta postica rubicunda connexa antice ad strigam geminatam fusco-purpuream. Pone fasciam alæ pallidiores sunt. Ipse margo posticus striga purpurea est, ciliis ex albido-fulvis longissimis omnium Noctuarum. Alæ posticæ albæ fimbriâ fuscâ purpureo extus marginatâ, ciliis mediocribus albis.

OBS. This is perhaps the most beautiful of all our genuine Noctuæ, and it is likewise certainly one of our rarest; as has already been observed in the Transactions of the Entomological Society of London, page 85, where about five specimens only are recorded to have been found in England.

20. RECTO-STRIGATÆ. Alis fere concoloribus strigis rectiusculis, sæpius absque stigmatibus.

N. (The equal Treble-lines) alis griseo-canis strigis tribus sesquialterâ saturatioribus æquidistantibus. *trilinea.* 262.
Noctua Trilinea. Hüb. Schmet. Noct. 45. 416.
Noctua Quercus. Fab. Ent. Syst. 3. 24. 44.
HABITAT. Imago f. Jun. i. Sept. Dumetis.
EXPANSIO alarum 1 unc. 4 lin.
DESCRIPTIO. Antennæ testaceæ validæ, maris lente pectinatæ. Striga prima alarum abbreviata subfusca costalis ad basin: secunda minime obliqua: tertia recta paululùm undulata costam versus: quarta simillima postica. Margo posticus ciliaque parum saturatiora. Posticæ fuscescentes, ciliis griseis.

N. (The inequal Treble-lines) alis rufo-griseis, strigis tribus sesquialterâ saturatioribus inæquidistantibus. *approximans.* 263.
HABITAT apud nos rarissime.
EXPANSIO alarum 1 unc. 4 lin.
DESCRIPTIO. Præcedenti simillima. Differt. Alæ anticæ minus canæ strigâ abbreviatâ basi evanescente. Tertia striga oblique approximat usque ad secundam in margine tenuiore. Margo posticus non saturatior. Alæ posticæ fuscæ ciliis rufescentibus. An varietas fœminæ præcedentis?

N. (The clouded Treble-lines) alis rufo-griseis postice saturatioribus, strigis tribus sesquialterâ æquidistantibus fuscis. *semifuscana.* 264.
HABITAT apud nos rarissime.
EXPANSIO alarum 1 unc. 5 lin.
DESCRIPTIO. Penultimâ vix differt nisi in colore, qui pone strigam secundam perfectam usque ad marginem, longe saturatior, et fusco-rufus est. Striga ipsa secunda cæteris triplo validior est, et fusca. Alæ posticæ ut in ultima.

N. (The dark Treble-lines) alis griseo-fuliginosis strigis duabus rectis, stigmate obsoletissimo interjecto. *bilinea* 265.
Noctua bilinea. Hüb. Schmet. Noct. 45. 217.
HABITAT apud nos rarissime. Exemplaria duo, prope Londinum capta solùm vidi.
EXPANSIO alarum 1 unc. 5 lin.
DESCRIPTIO. Mas. Prioribus maxime affinis est, at longe saturatior et quasi fuliginosa, hinc illinc tincturâ griseâ.

Striga abbreviata præcedentium deest, at tertia certo situ paululum appareat fuliginosior quam alæ, et transit stigma reniforme evanescens. Stigma anticum nullum. Antennæ testaceæ validæ, lente pectinatæ sunt. Posticæ fuscæ ciliis rufis.

turca. 266. N. (The Double-line) cristata alis deflexis flavescentibus, strigis duabus fuscis lunulaque lutea.

N. turca. Fab. Ent. Syst. 3. 113. 339.—*Hüb. Schmet. Noct.* 45. 218.

Phalæna Noctua turca. Lin. Faun. Suec. 1221.

HABITAT apud nos valde infrequens, Imago Jul. Sylvis. Exemplaria quatuor solum vidi.

EXPANSIO alarum 1 unc. 8 lin.

DESCRIPTIO. Ferruginea tota: alæ anticæ atomis fuscescentibus numerosis obsoletis. Striga fusca parum incurva ante, alteraque obliqua parum undulata pone lunulam albidam loco stigmatis postici. Stigma anticum deest. Posticæ fuscæ margine omni rufo-ferrugineo.

21. RETUSÆ. Corpore gracili. Alis anticis retusis stigmatibus tribus, strigis etiam subtribus pallidis.

subtusa. 267. N. (The Olive) alis retusis fusco-olivaceis, stigmatibus tribus olivaceis, strigisque tribus sesquialtera flavicantibus.

Noctua subtusa. Fab. Ent. Syst. 3. 62. 173.—*Hüb. Schmet. Noct.* 44. 213.

HABITAT apud nos prope Londinum, at valde infrequens.

EXPANSIO alarum 13-15 lin.

DESCRIPTIO. Striga prima costalis abbreviata est, et secunda recta, exacte ut in sectione priore: tertia incurva pone medium alæ, et pone hanc striga alia obsoletissima undulata cæteris diversa et subevanescens. Cilia olivacea. Stigmata ordinaria tria olivacea, flavedine marginata, tertium parabolicum est, et e striga secunda enatum. Striga prima subinde etiam habet rudimentum stigmatis parabolici parvi. Posticæ fuscæ ciliis pallidioribus. Præterea striga fuscescens anticarum subinde extendit a basi stigmatis postici ad marginem tenuiorum.

β. Fusca, absque olivaceo, cæteris ut in α.

HABITAT cum priore. Etiam in Com. Ebor. capta atque communicata amico H. E. Strickland.

N. (The

N. (The Slender-bodied) alis emarginatis fuscis strigis duabus sesquialterâ, marginibusque stigmatum pallidioribus. *gracilis.* 268.

Noctua gracillina. Prod. Lep. Brit. 14. 53.

HABITAT apud nos infrequens. Imago m. Jul. Truncis.

EXPANSIO alarum 13 lin.

DESCRIPTIO. Præcedenti differt corpore longiore, et gracillimo omnium Angliæ Noctuarum. Alæ magis fuscæ et emarginatæ strigis minus flavicantibus, tertia recta obliqua, nec ullo modo incurvata; quarta omnino deest.

N. (The double Kidney) alis emarginatis cinereo-fuscis, strigis quatuor fuscis albo-adnatis, stigmatibus duobus auriformibus tertioque obsoleto teliformi. *retusa.* 269

Noctua retusa. Fab. Ent. Syst. 3. 62. 174.—*Hüb. Schmet. Noct.* 44. 214.

Phalæna Noctua retusa. Lin. Faun. Suec. 1218.

Phalæna Noctua vetula. Hüb. Beit. 1. 3. 2. H.

Phalæna Noctua chrysoglossa. Beck. Lin. Tr. 2. 6. *cum figurâ malâ.*

HABITAT apud nos valde infrequens. Larva f. Jun. Salice Capreâ. Puppa subterranea. Imago f. Jul. Salicetis. *Beck. l. c.*

EXPANSIO alarum 1 unc.

DESCRIPTIO. Prioris forte mera sexualis varietas. Minor, corpore breviore crassiore. Alæ magis cinerascentes, et strigam undulatam habent juxta apicem ut in N. subtusa. Præterea stigma anticum, atque posticum auriformia, et stigma tertium teliforme obsoletissimum extendit a strigâ primâ per secundam, fere ad basin stigmatis postici. Cilia brunneo-fusca sive castanea. Posticæ perfuscæ ciliis pallide rufescentibus.

OBS. Beckwith describes the larva as beautifully green, pellucid, and the slenderest of all the Noctuæ, but with the motion nearly of a Geometra.

22. PSEUDOGEOMETRÆ. Statura gracili in hoc genere, et subinde fere Geometrarum; antennis luteis brevibus validis, medio parum crassioribus.

N. (The lesser Lutestring) alis cinereis fasciis duabus rectis e strigis compactis diversicoloribus. *diluta.*

Noctua diluta. Fab. Ent. Syst. 86. 254.—*Hüb. Schmet. Noct.* 43. 206.

HABITAT apud nos, valde infrequens.

EXPANSIO

Expansio alarum 1 unc. 3 lin.

Descriptio. Alæ anticâ fasciâ rectâ ferrugineâ sæpius albo nigroque undulatim terminatâ ante, alterâque pone medium: et inter fascias interdum striga flexuosa fusca. Posticæ albicantes fasciâ pone medium fimbriâque cinerascentibus, ciliis albidis.

luteicornis. 271. N. (The Yellow-horned) cristata alis deflexis: anticis cinereis, strigis tribus atris, antennis luteis.

N. Flavicornis. Fab. Ent. Syst. 3. 116. 352. *Exclusis synonymis Linnæanis.—Hüb. Schmet. Noct.* 43. 208. nec Lin.

Phalæna flavicornis. Don. Br. Ins. 352. 3.—*Exclusis synonymis Linnæanis.*

Habitat apud nos rarissime, Larva in Betula, Imago f. Mar.

Expansio alarum 1 unc. 7. lin.

Obs. As I have only german specimens of this species, I omit a description.

flavicornis. 272. N. (The Poplar Lutestring) alis cinereis strigis variis flexuosis fuscis.

Phalæna Noctua flavicornis. Lin. Faun. Suec. 1204. nec. Fab. vel aliorum.

Noctua, or. Fab. Ent. Syst. 3. 86. 253.—*Hüb. Schmet. Noct.* 43. 210.

Phalæna Noctua gemina. Beck. Lin. Trans. 2. 4. *cum figura.*

Habitat Larva in Populo. Imago Populetis, i. Jun. at infrequens.

Expansio alarum 1 unc. 6-7 lin.

Descriptio. Striga prima geminata est basi, tunc ante medium strigæ aliæ 3-4 confertæ fere in fasciam: tunc macula grisea subinde sesquialtera irregularis fere in loco stigmatum. Inter maculam et marginem posticum, strigæ tres aliæ æquidistantes, harum ultimæ duæ longe pallidiores minusque flexuosæ, et postrema connexa cum litura obliqua unciformi. nigra apicis. Posticæ fuscæ, margine parum saturatiores, ciliis fuscescentibus.

fluctuosa. 273. N. (The satin Carpet) alis cinereo-albicantibus fascia latissima fusca in medio, in qua lunula strigisque nigris.

Noctua Fluctuosa. Hüb. Schmet. Noct. 44. 212.

Noctua similina. Prod. Lep. Brit. 14. 50.

Habitat apud nos valde infrequens. Imago m. Jun. Peridumetis.

Expansio alarum 1 unc. 6-7 lin.

Descriptio. Corpus prægracile fere ut in Geometris. Alæ basi

cinereæ strigâ punctisque fuscis: tunc fascia fusca recta extendens ultra medium, in qua striga una alterave flexuosa nigra, et lunula obscura etiam nigra, extus albida, loco stigmatis postici: pone fasciam striga distincta fuscescens minutim denticulata. Margo posticus pallide fuliginosus, striga denticulata pallida. Stigma anticum nullum. Alæ posticæ albidæ fimbriâ pallide fuliginosâ.

N. (The lesser satin Carpet) alis cinereis fascia latissima fusca in medio, in qua strigæ punctumque geminatum nigra. *duplaris.* 274.

Tinea duplaris. Lin. Faun. Suec. 1357.

Noctua Undosa. Hub. Schmet. Noct. 44. 211.

Noctua dissimilina. Prod. Lep. Brit. 14. 51.

HABITAT cum præcedente, at frequentior. Imago i. Jun. Peridumetis.

EXPANSIO alarum 1 unc. 4-5 lin.

DESCRIPTIO. Priori simillima et fere eadem: differt solum magnitudine, alis saturatioribus, punctoque geminato, medio fasciæ (nec lunula) loco stigmatis postici.

OBS. Hübner's figures of this, the preceding, and others, I have received without letter-press, since the Prodromus was printed.

10. PHYTOMETRA.

(THE DAY HALF-LOOPER.)

CHARACTERES GENERIS.

Antennæ setaceæ.

Lingua longa, spiralis, cornea.

Palpi compressi, pilosi, apice cylindrici, nudi.

Corpus crassum, plerumque ut in Noctua; alis fere absque stigmatibus propriis; volatu celeri solari, iterumque sæpius vespere.

Larva hemigeometra subgracili, pedibus duodecim: viz.— 6, pectoralibus; quatuor, ventralibus posticis; 2, caudalibus.

CHARACTERES SECTIONUM.

1. METALLICÆ. Statura Noctuarum thorace valde cristato, alis plus minus acutis metalloque notatis, volatu impetuoso brevi solari apud flores; iterumque vespertino.
2. GRACILES. Corpore graciliore, interdum fere ut in Geometra.
3. SOLARES. Corpore ut in Noctuis, vel sæpe graciliore; alis posticis conspicue pictis; volatu tantum solari, brevi, celeri, at vacillante.

1. METALLICÆ. Statura Noctuarum thorace valde cristato, alis plus minus acutis metalloque notatis, volatu impetuoso brevi solari apud flores; iterumque vepertino.

Festucæ. 1. P. (The Gold-spot) alis aureo-brunneis maculis tribus nitidissime aureis.

Phalæna Noctua Festucæ. Lin. Faun. Suec. 1170.—*Lin. Syst. Nat. 2.* 845. 131.

Noctua

Noctua Festucæ. Hüb. Schmet. Noct. 57. 277.

HABITAT. Larva in Festucâ et Poâ aquaticâ. Pupa folliculata super paginam inferiorem foliorum subretro-fractorum Imago f. Aug. paludosis, vel apud Cardui flores radiis solaribus, at infrequens.

EXPANSIO alarum 1 unc. 5 lin.

DESCRIPTIO. Maculæ duæ aureæ in medio alarum primarum, alteraque tenuior juxta apicem. Posticæ alæ fuscæ ciliis rufis.

P. (The burnished Brass) alis fuscis subnebulosis, fasciis duabus orichalceis. *chrysitis*, 2.

Phalæna Noctua chrysitis. Lin. Faun. Suec. 1169.—*Lin. Syst. Nat.* 2. 843. 126.

Noctua chrysitis. Fab. Ent. Syst. 3. 76. 220.—*Hüb. Schmet. Noct.* 56. 272.

HABITAT. Imago. f. Jun. Ripis, frequens.

EXPANSIO alarum 1 unc. 5 lin.

DESCRIPTIO. Fascia prima alarum ante, secunda magis obliqua juxta marginem posticum, ciliis brunneo-fuscis. Posticæ fuscæ, ciliis fusco-rufescentibus.

β. Fasciis aurichalceis medio pulchre confluentibus.

P. (The scarce burnished Brass) alis brunneo-fuscis postice pallidioribus, macula magna postica trapeziformi aurichalcea. *orichalcea*, 3. *

Noctua orichalcea. Fab. Ent. Syst. 3. 77. 222.—*Hüb. Beit.* 2. 1. 4. W.—*Hüb. Schmet. Noct.* 3. 57. 278.

Phalæna Noctua ærifera. Sowerb. Brit. Mis. 59. t. 29.

The scarce burnished Brass. Harris. Expos. 25. *tab.* 6. *f.* 4.

HABITAT prope Mancastriam at infrequens. Imago Jun. Communicavit ejus captor amicus Dom. J. L. Phillips. F. L. S.

EXPANSIO alarum 1 unc. 10 lin.

DESCRIPTIO. Præcedenti major. Caput et palpi rufi. Thorax cristatus antice rufus, postice rufo-fuscus. Abdomen alæque posticæ rufo-fuscæ, basi vix dilutiores, striga media obsoleta saturatiore.

P. (The gold Spangle) alis brunneo-fuscis, margine postico pallidiore, macula angulata ante medium aurea. *bractea*. 4. *

Noctua bractea. Fab. Ent. Syst. 3. 78. 224.—*Hüb. Schmet. Noct.* 57. 279.

Noctua bracteina. Prod. Lep. Brit. 16. 103.

Phalæna Noctua bractea. Sow. Mis. 57. t. 28.

HABITAT

HABITAT in Com. Ebor. atque in Scotia, at rarissime Imago Jun. Capta atque communicata sed non primo amico H. E. Strickland.

EXPANSIO alarum 1 unc. 8 lin.

DESCRIPTIO. Simillima præcedenti at minor, maculâ alarum longe minore pallidiore ante, nec pone medium, et positâ in anteriore limbo fasciæ dimidiatæ rhombeæ brunneæ marginis tenuioris. Alæ posticæ fere ut in sequente.

Iota, 5. P. (The gold Y.) alis brunneo ferrugineoque variis, gamma aurea interrupta.

Phalæna Noctua Iota. Lin. Syst. Nat. 2. 844. 130.

Noctua Iota. Fab. Ent. Syst. 3. 81. 237.

HABITAT Larva in hortorum Fragrariis, Imago f. Jun. infrequens.

EXPANSIO alarum 1 unc. 6-8 lin.

DESCRIPTIO. Stigma anticum deest, et posticum fere omnino obliteratum. In medio alarum anticarum fascia lata abbreviata saturatior, in qua gamma græcorum aurea sed aliquo interrupta: hæc fascia a margine crassiore distans. Alæ posticæ rufo-cinereæ, strigâ venis fimbriâque saturatioribus. Cilia omnia rufa apice saturatiora.

β. Alis brunneo griseo ferrugineoque variis, gamma aurea perfecta in medio.

Noctua Gamma-aurina. Prod. Lep. Brit. 16. 109.

HABITAT. Imago Sylvaticis. i. Jul. rarissime.

DESCRIPTIO. Præcedente var. vix differt nisi in gamma aurea, quæ speciosior est et integra, nec interrupta. Cilia omnia rufa fusco maculata.

γ. Alis brunneo griseo ferrugineoque variis, gamma aurea fracta, stigmatibus divaricatim remotis auro cinctis.

Noctua pulchrina. Prod. Lep. Brit. 16. 109.

Noctua Iota. Hüb. Schmet. Noct. 58. 282.

HABITAT, cum præcedentibus, at valde infrequens. Imago i. Jul.

DESCRIPTIO. Penultimæ var. simillima at longe pulchrior. Dignoscitur primo intuitu alis pallidioribus magis variegatis, et potissimum stigmatibus ordinariis remotis divaricatis, auro pulchre circumcinctis. Cilia omnia rufescentia fusco maculata.

gamma. 6. P. (The silver Y.) alis sub-argenteo griseo fuscoque variis, gamma græcorum argentea.

Phalæna

Phalæna Noctua Gamma. Lin. Faun. Suec. 1171.—*Lin. Syst. Nat.* 2. 843. 127.
Noctua Gamma. Fab. Ent. Syst. 3. 79. 228.—*Hüb. Schmet. Noct.* 58. 283.
HABITAT. Larva in variis plantis polyphaga, Imago Mai—fere ad Novembrem, vulgatissima forte omnium hujus generis.
EXPANSIO alarum 1 unc. 6-8 lin.
DESCRIPTIO. Præcedentibus valde affinis. Gamma græcorum argentea integra in eodem loco. Fascia abbreviata minus valida; seu imperfecta. Cilia grisea fusco maculata. Posticæ albidiores, fimbriâ venisque nigris. Cilia alba fusco maculata.
β. Alis saturatioribus, minus argenteis, rubedine magis mixtis, gamma græcorum absolute aurea, nec argentea. Stigmatibus ordinariis exacte ut in H. Iota γ, atque similiter tenuissime auro circumcinctis.

P. (The Yorkshire Y.) alis cinereo fusco roseoque variis, in medio litera v punctoque contiguo argenteis. *interrogationis.*
Phalæna Noctua interrogationis. Lin Faun. Suec. 1172. 7.
Noctua subpurpurina. Prod. Lep. Brit. 16. 108. *
Phalæna Aurosignata. Donov. Br. Ins. 13. 453.
Harris's Expos. 21. *tab.* 5. 3.
HABITAT Comitatu Eboracensi. Imago Ericetis montosis volatu impetuoso solari.
EXPANSIO alarum 1 unc. 3 lin.
DESCRIPTIO. Præcedentibus differt statura minore, alis anticis roseo cinereo fuscoque perpulchre variegatis, et potissimum charactere argenteo. Cilia rosea fusco maculata.
OBS. This species was known to Harris as above cited, where he remarks that it " is a different species from the Phalæna interrogationis of Linnæus." In this, however, he was probably mistaken, as there are hardly any doubts about this being the N. interrogationis of Fauna Suecica, although Linnæus makes no kind of mention of its beautiful purple tints.—It is not the interrogationis of Hübner, nor does it exactly accord with his Noctua Ni: although very closely allied to both.

P. (The Essex Y.) alis fusco cinereoque variis, literâ v scribæ subargentea. *circumflexa.* 8. *
Noctua circumflexa. Fab. Ent. Syst. 3. 78. 226.
Phalæna Noctua circumflexa. Lin. Syst. Nat. 2. 844. 128. et ejus Musæi.
Noctua circumflexina. Prod. Lep. Brit. 16. 107.

Phalæna Noctua flexuosa. Don. Brit. Ins. tab. 412.

HABITAT in Com. Essex. D. Drury.

EXPANSIO alarum 1 unc. 6 lin.

DESCRIPTIO. Præcedentibus valde discrepat charactere argenteo quæ certe minus argenteus est, et extendit a basi fere ad medium alæ atque simulat literam V Scribæ, potius quam Typographi. Alæ ante et in sinu literæ costam versus cinerascunt. Cætera priore conveniunt.

OBS. Mr. Donovan, from some strange misconception, calls this the Yorkshire Y Moth, although he possesses that rare insect, as well as the present one; and renders the matter still more inexplicable, by saying, " it is in some respects " not unlike the *common* Y, Noctua interrogationis.!" Now the fact is, that the common Y is the common Noctua gamma. The Yorkshire Y appears to be the Noctua interrogationis of Lin. (but not of Hübner) although Mr. Donovan has figured it as a new species.

The late Mr. Drury told me he took H. circumflexa in Essex, the very individual Mr. Donovan has figured, and that is here and in the Prodromus, described. I have also seen it in two other collections.

illustris. 9. * P. (The purple Shades) cristata, alis deflexis integris viridi cinereoque nitidulis: maculis tribus ferrugineis distinctis. *Fab. Ent. Syst.* 3. 84. 245.—*Hüb. Schmet. Noct.* 56. 274.

HABITAT in Wallia.

EXPANSIO alarum

OBS. Having only german specimens of this beautiful species, I refrain from describing them more minutely. Mr. Donovan informed me he took it in Wales.

monilis. 10. * P. (The Necklace) alis deflexis brunneis punctis quatuor, approximatis albis, antennis pectinatis. Fab.

Noctua monilis. Fab. Ent. Syst. 3. 46. 124.

Phalæna Noctua monilis. Elements of Natural History. 2. 185. 192.

HABITAT in Anglia. Fab. l. c.

Media. Antennæ pectinatæ, ferrugineæ. Caput et thorax ferruginea. Abdomen pallidius. Alæ anticæ brunneæ puncto medio obscuro et ad marginem tenuiorem puncta quatuor approximata, transversim posita, alba quorum 1. 3. minora. Versus apicem itidem puncta quatuor flavescentia at obsoleta. Posticæ pallide rufescentes subtus striga obscuriore. Fab. l. c.

OBS. Of this fine species I possess exotic specimens, but have

have not seen any british ones. It is, however, recorded to "inhabit England" both by Fabricius, and the author of Elements of Natural History, in the places above cited: but the latter writer has probably only the authority of Fabricius, for calling it an english species, although he mentions no authority.

2. GRACILES. Corpore graciliore, interdum fere ut in Geometra.

P. (The Blackneck) alis cinerascentibus in medio litura nigra, margine postico fimbria fuscescente, collari nigro. *lusoria.* 11.
Noctua lusoria. Fab. Ent. Syst. 3. 64. 179.—*Hüb. Schmet. Noct.* 65. 218.
Phalæna Noctua lusoria. Lin Syst. Nat. 2. 831. 74.
HABITAT apud nos infrequens. Imago. m. Aug. sylvaticis. humidis.
EXPANSIO alarum 1 unc. 8 lin.
DESCRIPTIO. Alæ anticæ glaucæ, quasi pulverulentæ lineolis minutis transversis numerosissimis sparsis. In loco stigmatis antici punctum nigrum minutum. Stigma posticum nigrum lituræforme, vel anguste reniforme puncto nigro contiguo ad calcem ejus externe. Posticæ subfuscæ, fimbriâ paululum saturatiore.

P. (The scarce Blackneck) alis fuscis puncto lituraque medio nigris, strigisque duabus obsoletis apicem versus. *ludicra.* 12.
Noctua Ludicra. Hüb. Schmet. Noct. 65. 319? *
HABITAT in Anglia. D. Swainson. †
EXPANSIO alarum 1 unc. 8 lin.
DESCRIPTIO. Valde affinis N. lusoriæ, at distincta. Alæ anticæ fuscæ strigis duabus apicem versus vix conspicuis. Posticæ itidem fuscæ.
OBS. I have only seen this species in Mr. Swainson's collection, where the above description was taken eight years ago.

P. (The Double-barred) Alis griseo fuscescentibus, fasciis duabus saturatioribus, corpore crassiusculo. *crassiuscula.* 13.
HABITAT in Anglia rarissime. In Musæo D. Swainson. *
OBS. Magnitudo et color Geometræ clavariæ supra, at corpore crassiore. †
OBS. The above, probably imperfect description, was taken many

many years since from Mr. Swainson's collection. It may possibly not even belong to this genus.

scopulepes. 14. * P. The Brush-foot) alis anticis lutosis fascia subfusca postica obliqua pyramidali; pedibus posticis scopulæformibus.
HABITAT in Anglia rarissime. In Mus. Dom. Leach, ex Musæo Portlandico.
EXPANSIO alarum
DESCRIPTIO. Lutosus. Corpus gracile, abdomine acuto. Antennæ, pedesque desunt in exemplario D. Leach; at in peregrino (forte ex Americæ Georgiâ) pedes postici præsingulares, subtus birsutissimi et exacte scopulæformes. Fascia anticarum alarum gracile conica seu pyramidalis juxta marginem posticum, extendit oblique fere in apicem, atque terminat in striga obsoleta punctorum fuscorum. Postica ciliaque omnia itidem lutosa, strigâ validâ postieâ fimbriâque fuscis.
OBS. It is extremely probable, that this is not a nondescript species, although as yet I have not been able to ascertain it.

lutescens. 15. P. The reddish Buff) alis subunicoloribus sordide rufo-lutescentibus ad marginem crassiorem rufis; posticis subfuscis.
HABITAT apud nos rarissime.
EXPANSIO alarum 1 unc. 2 lin.
OBS. Cilia omnia rufescentia, anticarum saturatiora.

rufa. 16. * P. (The small Rufous) alis oblongis ciliisque rufis unicoloribus; posticis ciliisque pallidis striga medio macularum obscurarum.
HABITAT apud nos rarissime.
EXPANSIO alarum 11 lin.
DESCRIPTIO. Facies Bombycis rubeæ. Hüb. Schmet. at absque puncto medio albo. Caput inter antennas album. Lingua et Palpi Noctuarum, potius quam Bombycum. Corpus paulo gracilius quam in ultimo et alæ magis oblongæ.

arcuosa. 17. P. (The small-dotted Buff) alis sordide albo-lutescentibus strigis duabus punctorum minutissimorum fuscorum.
HABITAT apud nos infrequens.
EXPANSIO alarum 1 unc.
DESCRIPTIO. Corpus gracilius fere omnium hujus generis. Costa anticarum punctis ordinariis fuscis, ultimo horum majore juxta apicem. Striga prima recta ante, secunda arcuata pone medium, et inter has strigas in medio alæ

punctum solitarium fuscum. Cilia pallida. Posticæ ciliaque fuscescentia.

P. The marbled White-spot) alis fusco nigro albo varie cinereis, macula majuscula oblonga alba anguli ani. *fusca.* 18.
Noctua Fuscula. Hüb. Schmet. Noct. 60. 297.
HABITAT. Imago Sylvis f. Jun. infrequens.
EXPANSIO alarum 1 unc.
DESCRIPTIO. Pone maculam albam juxta marginem posticum, striga flexuosa alba transversa a costa ad marginem tenuiorem. Cilia cinerea fusco maculata, stigma anticum fere obliteratum; reniforme distante margine albo; inter hæc macula nigra. Posticæ alæ ciliaque fusca.

P. (The marbled White-line) alis fusco nigro alboque varie cinereis, striga flexuosa alba pone stigmata, posticis fuscis. *albilinea,* 19.
HABITAT apud nos rarissime.
EXPANSIO alarum 1 unc.
DESCRIPTIO. Præcedenti simillima, et vix differt, nisi in absentia maculæ albæ anguli ani, et in striga flexuosa juxta marginem posticum fere omnino obliterata.

P. (The blossom Tip) alis anticis a basi post medium nitidis nigricantibus, limbo stigmatibusque purpurascentibus. *apicosa.* 20. *
HABITAT in Anglia rarissime, D. Francillon.
EXPANSIO alarum 1 unc.
DESCRIPTIO. Corpus gracile præcedentium. Alæ posticæ fuscæ puncto medio saturatiore.
OBS. The above description was made from Mr. Francillon's collection, several years since.

P. (The Rosy-marbled) alis roseo fuscoque variis macula majuscula nigricente marginem tenuiorem versus. *venustula.* 21. *
Noctua Venustula. Hüb. Schmet. Noct. 66. 294. †
HABITAT apud nos rarissime. D. Honey.
EXPANSIO alarum
OBS. The description was made eight years since from specimens in Mr. Honey's collection.

P. (The Silver-barred) alis fuscis fasciis duabus niveis, antica usque ad basin incurvata. *Bankiana.* 22. *
Noctua Olivea. Hüb. Schmet. Noct. 60. 292. †
Pyralis Bankiana. Fab. Ent. Syst. 3. 242. 1.
HABITAT in Anglia. D. Swainson.
EXPANSIO alarum.

OBS.

OBS. Magnitudo P. farinalis.

OBS. This description was made from Mr. Swainson's collection several years since.

unca. 23. P. (The silver Hook) alis fuscis margine exteriori albido; medio ramum recurvum exserente.

Phalæna Tortrix uncana. Lin. Faun. Suec. 1305.—*Lin. Syst. Nat.* 2. 875. 284.

Pyralis uncana. Fab. Ent. Syst. 3. 246. 13.

Noctua Unca. Hüb. Schmet. Noct. 60. 293.

HABITAT in Comitatu Norfolciense Paludosis. Communicavit ejus captor Rev. J. Burrell.

EXPANSIO alarum 11 lin.

DESCRIPTIO. Alæ fuscæ costâ lividâ. Stigmata nivea medio livida reversim divaricata, anticum subovale, posticum oblongum deorsum elongatum. Per apices stigmatum linea lata albida excurrit a basi usque ad apicem. Striga alba juxta marginem posticum quæ costam nec attingit, pone strigam color ciliaque livida vel fuscescentia. Posticæ alæ fuscæ ciliis fuscescentibus.

sulphurea. 24. P. (The spotted Sulphur) alis anticis sulphureis, maculis novem lineisque duabus crassis nigris; posticis fuscis.

Noctua Sulphurea. Hüb. Schmet. Noct. 60. 291.

Phalæna Pyralis Sulphuralis. Vill. Ent. 2. 434. 782.

HABITAT apud nos valde infrequens. Imago. m. Jul. Agris.

EXPANSIO alarum 11 lin.

DESCRIPTIO. Alæ anticæ maculis nigris quinque regularibus in costa, vel costam versus, atque quatuor ordine in margine postico. Præterea linea crassa nigra a basi post medium recta, et tunc rectangulatim oblique ad maculam in apice alarum; lineaque alia marginis tenuioris a basi, ad angulum prioris lineæ. In exemplaribus præclaribus obliqua pars lineæ primæ argentescit. Cilia nigra, sed apicalia et subapicalia, alba; posticarum fusca apicibus albis.

3. SOLARES.

3. SOLARES. Corpore ut in Noctuis, vel sæpe graciliore; alis posticis sæpius conspicue pictis, volatu tantum solari brevi, celeri at vacillante.

P. (The bordered Straw) tota straminea, alis anticis subnebulosis; posticis lunula medio fimbriaque fuscis, in fimbria externè macula straminea. *straminea.* 25.

Phalæna Noctua straminea. Don. Brit. Ins. 2. 61.

Noctua Peltigera. Hüb. Schmet. Noct. 63. 310.

HABITAT apud nos rarissime. Imago f. Jul. Agris volatu brevi solari, cum sequente. Exemplaria anglicana, duo, solum vidi, at Americana, multa.

EXPANSIO alarum 1 unc. 7 lin.

DESCRIPTIO. Antennæ ferrugineæ. Stigmata ordinaria exigua, et fere obliterata, posticum quasi macula fusca: subinde in alis anticis striga postica punctulorum alborum minutissimorum fere omnino obliteratorum. Cilia pallide rosea, posticarum alba.

OBS. Had I not possessed a named specimen of this species from Mr. Donovan himself, I never could have understood it. The strong markings and nine *silver* spots which he gives it in his figure, so totally misled me that I committed the greatest error imaginable in the Prodromus by making it one of the section *Metallicæ*.

I have since procured several other specimens; but it is rare. Mr. D. thus speaks of its infrequency. "We have sought "every information which our connection would permit; "and from the result we scarcely hesitate to pronounce the "insect of a nondescript species, and our specimen to be "*perfectly unique; at least it is a newly discovered acquisi-*"*tion to many scientific entomologists.*"

P. (The marbled Clover) alis griseis, fascia irregulari rufofusca per stigma posticum; posticis albis basi, lunula prægrossa medio, fimbriaque nigris; in medio fimbriæ externè macula alba. *Dipsacea.* 26.

Noctua dipsacea. Fab. Ent. Syst. 3. 33. 83.—*Hüb. Schmet. Noct.* 63. 311.

HABITAT. Imago f. Jul. et i. Aug. Agris, valde infrequens.

EXPANSIO alarum 1 unc. 3 lin.

DESCRIPTIO. Alæ anticæ macula quadrata pallidiore, vel lutescente inter et pone stigmata. Pone medium fascia postica

postica obsoletissima fuscescens. Cilia brunnea, at alarum posticarum alba.

grandirena. 27. P. (The great Kidney) alis griseo-nigris, fasciis duabus obliquè contrariis, macula magna reniformi interjecta, pallidis.

HABITAT prope Exoniam in Devonia. Dom. Leach.

EXPANSIO alarum

DESCRIPTIO. Alæ anticæ griseo-fuscæ, fascia angustâ integerrimâ pallidâ antrorsum obliquâ ante medium, characterem crassum atrum secante, qui extendit flexuosim atque attenuatim (demum interruptè) per marginem stigmatis, fere ad apicem. Juxta marginem posticum fasciâ aliâ angustâ integerrimâ extrorsum obliquâ pallescente, priore obscuriore: ciliis apice excepto fuscis. Posticæ fusco-piceæ, lineolâ crassâ pallidâ a basi post medium, maculâ magnâ in medio, lineolâque aliâ juxta marginem posticum pallidis. Cilia alba, sed pone, medium alæ fusca.

OBS. The above description was taken from a mutilated specimen in the collection of Mr. Leach, which he says was caught at Bristol; assisted by two complete ones from Georgia.

leucomelas. 28. P. (The large 4-Spotted) spirilinguis cristata, alis nigricante nebulosis: macula alba; inferioribus antice niveis.

Phalæna Noctua leucomelas. Lin. Faun. Suec. 1194.

Noctua Alchymista. Hüb. Schmet. Noct. 62. 303.

HABITAT apud nos rarissime. In Musæo Portlandiano erat.

EXPANSIO alarum

OBS. Mr. Francillon possesses an English specimen of this fine species; and my respected tutor in Entomology, Mr. Jones, assures me that he also has seen it in the British collection of that great patroness of Natural History, the late Dutchess of Portland.

luctuosa. 29. P. (The four-spotted) alis nigris macula costali rosea, posticis nigris fascia media alba.

Noctua Luctuosa. Hüb. Schmet. 62. 305. 306.

Noctua italica. Fab. Ent. Syst. 3. 37. 95. *excluso synonymo Linnæano.—Schæffer's Icon. tab.* 51. *f.* 11. 12.

HABITAT. Imago. Jun. agris Cantii, at infrequens.

EXPANSIO alarum 12-13 lin.

DESCRIPTIO. Niger. Alæ anticæ maculâ-magnâ costali pone medium albo-roseâ; pone hanc dilutiores. Posticæ fasciâ latâ medio-paulo undatâ maculâque obsoletâ ad marginem

marginem posticum angulum ani versus, albis. Cilia omnia alba at medio alarum nigra.

P. (The small Marble) alis albo, fusco, plumbeo, luteo, rufo, olivaceoque variis, basi albis; posticis fuscis. *minuta.* 30.

Noctua minuta. Hüb. Schmet. 96. 451?

HABITAT rarissime in Anglia. In Musæo D. Francillon.

EXPANSIO alarum 9 lin.

P. (The Burnet) alis glaucescentibus, fasciis duabus; macula costali, margineque postico fuscis; posticis luteis; antice, striga, venis, margineque postico nigris. *glyphica.* 31.

Phalæna Noctua glyphica. Lin. Faun. Suec. 1161.—*Lin. Syst. Nat.* 2. 838. 105.

Noctua glyphica. Fab. Ent. Syst. 3. 32. 82.—*Hüb. Schmet. Noct.* 75. 346.

HABITAT. Imago i. Jun. Agris, frequens.

EXPANSIO alarum 14 lin.

DESCRIPTIO. Alæ anticæ fasciâ obliquâ ante, alteràque pone medium: tunc maculâ quadratâ costali juxta apicem, fasciâque marginali fuscis. Stigmata fere omnino obliterata. Posticæ basi, et ad latus internus nigræ; tunc luteæ, fusco venosæ, strigâ sesquialterâ nigrâ interruptæ, quæ strigæ punctum nigrum costæ vix attingunt. Cilia omnia brunnea.

P. (The Shipton) alis albo nigroque variis; posticis nigris striga undata punctisque albis. *Mi.* 32.

Phalæna Noctua Mi. Lin. Faun. Suec. 1262.—*Lin. Syst. Nat.* 2. 838. 106.

Noctua Mi. Fab. Ent. Syst. 3. 34. 85.—*Hüb. Schmet. Noct.* 75. 346.

HABITAT. Imago i. Jun. Agris, frequens.

EXPANSIO alarum 14 lin.

DESCRIPTIO. Alæ anticæ varie albo flexuosim striatæ. Stigmata ordinaria nigra maculæformia; et inter hæc macula alba. Posticæ nigræ, maculis 2-3 albis anticis; tunc striga pone et vix pone medium undata alba, nigredine tenue interrupta: tunc striga alia irregulari ex maculis parvis distinctis albis. Cilia omnia alba nigro maculata. Facie hæc species paululum simulat Papilionem Malvæ.

P. (The minute Yellow-underwing) alis subfuscis striga medio flexuosa nigra, posticis nigris fascia medio lutea. *Arbuti.* 33.

Noctua Arbuti. Fab. Ent. Syst. 3. 126. 380.

Noctua Heliaca. Hüb. Schmet. Noct. 64. 316.

HABITAT. Imago f. Mai. Pratis frequens radiis solaribus.

Expansio alarum 8-9 lin.

Descriptio. Cilia anticarum alternatim nigra et lutea; posticarum omnino lutea.

β. Fasciâ luteâ posticarum angustiore.

ænea. 34. P. The small Purple-barred) tota fusca, alis anticis fascia obliqua pone medium margineque postico late purpureis.

Noctua Ænea. Hüb. Schmet. Noct. 75. 350.

Habitat Imago Ericetis f. Aug.

Expansio alarum 9 lin.

Descriptio. Alæ omnes subfuscæ seu fusco-piceæ, vel subinde cinerascentes, fascia anticarum pone medium subundulata saturatiore, et subinde obsolete purpurascente, utraque marginata colore pallidiore. Palpi recurvi mediocres.

β. Alis fusco-piceis fascia postica subundulata saturatiore.

γ. Tota fusca absque fascia, vel purpureo.

Obs. This species agrees in its upper wings, but by no means in the under ones, with the Phalæna purpurata of Linnæus.

Obs. 2. Independent of the above described species, I have many years possessed the following account of two others, from the cabinet of Mr. Swainson, which probably belong to this genus.

nigrirena. 35. ♀ † P. (The black Kidney) alis albidis fusco maculatis, stigmate antico punctiformi, postico magno reniformi nigro.

Habitat rarissime in Anglia. In Mus. D. Swainson.

Expansio alarum 8 lin.

Descriptio. Magnitudo Noctuæ Ranunculinæ, (The small Ranunculus.)

bifasciosa. 36. ♀ † P. (The double-barred Brown) alis fuscescentibus fasciis duabus nigris, posticis fuscis margine saturatiore.

Habitat in Anglia rarissime. In Musæo D. Swainson.

Expansio alarum

Obs. I suspect both the above are figured by Hübner, but at present forbear to make the citations.

12. HEMIGEOMETRA.

Noctua Semigeometra. Hüb. Schmet.

(THE HALF-LOOPER.)

CHARACTERES GENERIS.

Antennæ setaceæ.

Lingua longa, spiralis, cornea.

Palpi compressi, pilosi, apice cylindrici, nudi.

Corpus gracile, interdum omninò ut in Geometra thorace lævi; alis absque stigmatibus propriis, volatu subinde diurno irregulari, iterumque pluribus vespere.

Larva gracilis hemigeometra, pedibus sexdecim, viz. 6 pectoralibus: 8 ventralibus: 2 caudalibus.

Pupa inter pabulum, nunquam subterranea.

CHARACTERES SECTIONUM.

1. SPECIOSÆ. Statura magna, alis posticis conspicue notatis fimbriatis, volatu partim diurno vacillante in alto, partimque iterum vespere, velocissimo.

2. MINORES. Staturâ parvarum Geometrarum, volatu diurno graviori.

1. SPECIOSÆ. Statura magna, alis posticis conspicue notatis fimbriatis, volatu partim diurno vacillante in alto, partimque iterum vespere velocissimo.

H. (The Nonpareil) alis cinerascentibus fusco-albo flexuosim strigatis; posticis nigris fascia pone medium cærulescente. *Fraxini.* 1.

Phalæna Noctua Fraxini. Lin. Faun. Suec. 1165.—*Lin. Syst. Nat.* 2. 843. 125.

Noctua Fraxini. Fab. Ent. Syst. 3. 55. 152.—*Hüb. Schmet. Noct. Tab.* 68.

HABITAT apud nos rarissime. Imago Julio Truncis.

EXPANSIO

Expansio alarum 4 unc.

Obs. The great size of this species, and the light blue bar in its under wings, render further description unnecessary. It is the largest European insect of this order, except Bombyx Pavonia major in expanse, and Sphinx atropos in bulk; the former of which we had forgot in asserting, under the account of atropos, that it was the biggest of European Lepidoptera. Very few specimens of the Nonpareil have yet been found in England. One of those now before us, was taken in Holderness three or four summers ago. It was communicated by Mr. P. W. Watson.

nupta. 2. H. (The red underwing) alis cinerascentibus, strigis varlis flexuosis, penultima inæqualiter dentata, posticis rubris fascia media fimbriaque nigris, abdomine supra cano.

Phalæna Noctua nupta. Lin. Syst. Nat. 2. 841. 119.

Noctua nupta. Fab. Ent. Syst. 3. 53. 148.—*Hüb. Schmet. Noct.* 69. 330.

Habitat Larva in Salice, Populo, Imago i. Aug. Truncis.

Expansio alarum 3½ unc.

Obs. As there is reason to suspect we have more of the red or crimson Underwing Moths in England, than are here enumerated, I forbear, at present, from all minute or contrasted description of them.

sponsa. 3. H. (The dark Crimson-underwing) alis fusco-cinereis, varie flexuosim strigatis; posticis coccineis fascia media præflexuosa, fimbriaque nigris; abdomine fusco cinereo.

Phalæna Noctua sponsa. Lin. Syst. Nat. 2. 841. 118.

Noctua sponsa. Fab. Ent. Syst. 3. 53. 147.—*Hüb. Schmet. Noct.* 71. 333.

Harris's Aurelian. Tab. 19.

Habitat infrequens, Larva in Quercu Com. Essex. Imago Quercetis f. Jul. D. Jones.

Expansio alarum 2½ unc.

promissa. 4. H. (The light Crimson-underwing) alis cinereis varie flexuosim strigatis, posticis coccineis fascia-sub-abbreviata flexuosa medio, fimbriaque nigris; abdomine cinereo.

Noctua promissa. Fab. Ent. Syst. 3. 54. 150.—*Hüb. Schmet. Noct.* 71. 334.

Habitat infrequens. Larva in Quercu apud Richmond Park. Imago Quercetis.

Expansio alarum 2 unc. 4 lin.

H. (The

H. (The lesser Crimson-underwing) alis fusco-cinereis varie flexuosim strigatis; posticis coccineis, fascia media subabbreviata vix flexuosa; fimbriaque nigris: abdomine fusco-cinereo. *conjuga.* 5. ♀ †

Noctua Conjuga. Hüb. Schmet. Noct. 71. 385.

HABITAT apud nos rarissime.

EXPANSIO alarum 2 unc. 1 lin.

DESCRIPTIO. Præcedentibus duabus simillima at minor, et distincta.

OBS. I have not seen an english specimen of this species myself: but my Tutor in Entomology assures me, that he has recently examined one, which was lately captured.

H. (The great Brown-bar) alis pallide fuscescentibus fascia lata medio, maculisque septem costalibus fuscis. *maura.* 6.

Phalæna Noctua maura. Lin. Syst. Nat. 2. 843. 124.

Noctua maura. Fab. Ent. Syst. 3. 63. 177.—*Hüb. Schmet. Noct.* 67. 326.

HABITAT, frequens Imago Domibus Jun. Jul. Aug.

EXPANSIO alarum 2 unc. 10 lin.—3 unc.

DESCRIPTIO. Fascia in medio anticarum stigmata includens, saturate fusca est, costam nec attingit. Apex alæ pallidior. Maculæ costæ, duæ basi, et quinque aliæ æquidistantes ad fasciam oppositæ. Posticæ alæ perfuscæ strigâ mediâ, sesquialterâ fere marginali, ciliisque pallidioribus.

ß. Fasciâ alarum anticarum duplo angustiore, pallidiore.

2. MINORES. Statura parvarum Geometrarum, volatu diurno graviori.

H. (The orange Underwing) *Parthenias.* 7.

Bombyx Parthenius, supra. 135. 98.

OBS. Having adopted this genus, the present and following species will here best arrange under it. The word rufis in the specific character should be nigris.

H. (The light orange Underwing) alis fuscis strigis duabus saturatioribus, maculaque cinerea, posticis macula baseos fasciaque rufis. *notha.* 8.

Noctua Parthenias. Hüb. Schmet. Noct. 74. 341. 342.

HABITAT cum præcedente, at longe rarior et paulo præcocior. Imago i. Mart.

EXPANSIO alarum 1 unc. 2-3 lin.

DESCRIPTIO.

Descriptio. Præcedenti fere eadem, vix differt. Paulo major. Alæ anticæ maculâ cinereâ subquadratâ ante stigma solitarium obsoletissimum, quæ in præcedente fasciam tranversam evadit.

Obs. Fearful of undoing without sufficient reason, what the great Lepidopterist Hübner has established; the present article is here at present retained as a species; without such authority, however, very few would have considered it as more than a slight variety. I have seen but three or four specimens of the male, and but one female. The yellow spot in the underwing of the latter, and the longitudinal orange line near the cilia of the underwings in the former, in Hübner's figures, are only very faintly to be traced in our english specimens.

13. GEOMETRA.

(THE FEATHERED LOOPER.)

Phalæna, Fab. Gen. Ins. 164.

Phalæna Geometra. Lin.—Yates.

CHARACTERES GENERIS.

Antennæ masculinæ nudo oculo pectinatæ.

Palpi cylindrici. F.

Lingua porrecta, membranacea. F.

Corpus (sectione primo excepto) prægracile.

Larva geometra, sæpissime gracilis, pedibus decem; vis. 6 pectoralibus: 2 posticis caudam versus: et 2 terminalibus ipsius caudæ.

CHARACTERES SECTIONUM.

1. BOMBYCARIÆ, corpore crasso, antennis masculinis valde pectinatis.
2. ATOMARIÆ, alis atomoso-cinereis subinde tincturâ ochraceâ, plus minus strigatis atque nebulosis, rarius fimbriatis.
3. RUFESCENTARIÆ, alis integris rufescentibus, fulvis, ochraceisve; strigatis vel fimbriatis, undique plus minus fusco-atomosis.
4. STRIGARIÆ, alis strigis duabus tribusve obliquis rectis, antica parum incurvata.
5. UNDARIÆ, alis albis albidisve, atomis fuscis, strigisque sæpius tribus sub-communibus parum undulatis.
6. ANGULARIÆ, alis plus minus dentato-angulatis, vel ad

apicem angulato-acutis, sæpius rufescentibus atque atomosis.

7. VIRIDARIÆ, alis integris vel parum angulatis, plus minus viridibus luteisve, strigis duabus tribusve obscuris.

8. FASCIARIÆ, alis fasciâ medio alarum anticarum solidâ, vel subinde quasi in duas divisâ.

9. PURPURARIÆ, alis integris absque angulis, purpureo plus minus fasciatis.

10. ANNULARIÆ, alis annulo medio, qui in ultimis duabus speciebus evanescit.

CHARACTERES SPECIERUM.

1. BOMBYCARIÆ, corpore crasso, antennis masculinis valde pectinatis.

prodomaria. 1. G. (The Oak Beauty) alis cinereis fasciis duabus flexuosis brunneis nigro terminatis.
Geometra Prodromaria. Hüb. Schmet. Geom. 33. 172.
Phalæna prodromaria. Fab. Ent. Syst. 3. 169. 105.
Habitat, Larva in Quercu; Imago f. Mar. Truncis at infrequens.
Expansio alarum M. 1 unc. 10. lin. F. 2 unc.
Descriptio. Fascia prima ante, secunda pone medium. Posticæ cinereæ, vel quasi albæ, punctis confertissimis nigris, interdumque strigâ undatâ pone medium fuscâ. Antennæ ferrugineæ, maris valde pectinatæ, rachi externe alternatim nigro alboque, fœminæ, setaceæ nigræ albo annulatæ.

Betularia. 2. G. (The Peppered) corpore alisque albis nigro confertim irroratis, nebulosis; posticis interdum striga pone medium nigra flexuosa.
Geometra Betularia. Hüb. Schmet. Geom. 83. 173.
Phalæna betularia. Fab. Ent. Syst. 3. 158. 103.
Habitat, Larva in Ulmo apud nos. Imago m. Jun. Septis, frequens.
Expansio alarum, Mas. 1 unc. 11 lin. Fem. 2 unc. 3 lin.
Descriptio. Antennæ maris nigræ valde pectinatæ, rachi brunneo, albo punctato; fœminæ setaceæ nigræ, albo annulatæ. Margo omnis ciliaris ordine punctorum majusculorum nigrorum.

G. (The

G. (The brindled Beauty) alis lutescentibus fusco minutissime confertim irroratis. *hirtaria*, 3.

Geometra Hirtaria. Hüb. Schmet. Geom. 33. 175.
Phalæna hirtaria. Fab. Ent. Syst. 3. 149. 72.
Phalæna Geometra hirtaria. Lin. Faun. Suec. 1236.
HABITAT Imago m. Ap. Trunçis Tiliæ.
EXPANSIO alarum M. 1 unc. 8 lin. F. 1 unc. 9.
DESCRIPTIO. Antennæ nigræ, maris valde pectinatæ. Corpus hirsutissimum. Strigæ anticarum alarum circiter quatuor, sæpe interruptæ, vel plus minus evanescentes. Prima obliqua ante medium, secunda etiam obliqua in medio: tunc subinde punctum nigrum loco stigmatis Noctuarum; demum striga una alteravę postica parum undulata, cæteris latior et fasciam obsoletam quasi efficiens. Posticæ pulverulentim cinereæ, strigis sæpe tribus obsoletis saturatioribus subæquidistantibus. Fœminæ alæ plus minus depilatæ, et inde fere translucentes, et minus fasciatæ: antennæ setaceæ.

G. (The fork-striped Brindle) alis griseis fusco minutissime at confertim irroratis, strigis fuscis, una furcata. *congeneraria*. 4.

Geometra Congeneraria. Hüb. Schmet. Geom. 33. 174.
HABITAT cum priore.
EXPANSIO alarum ut in præcedente.
DESCRIPTIO. Præcedentis forte mera varietas. Paulo pallidior, strigis tenuioribus, duabus pone medium costam versus in furcam coeuntibus. Antennæ paululum breviores, validioresque.
OBS. Until I had seen Hübner's figure above cited, I conceived this to be the very same as the preceding. It is perhaps the Ph. G. hirtaria of Linnæus, as it answers better than the last to his epithet cana.

G. (The dark Brindle) alis fuscis strigis quatuor obliquis obscuris saturatioribus. *fumaria*. 5. *
HABITAT Pupa infra terram. Imago quercetis, at rarissime. Exemplarium unicum Maris, solum vidi, captum i. Ap. A. D. 1802. †
EXPANSIO alarum
DESCRIPTIO. Statura G. Pedariæ. Antennæ valde pectinatæ, rachi aterrimo, radiis atris. Thorax percrassus atro alboque varius. Abdomen crassum atrum. Alæ anticæ fuscæ, seu fuliginoso-atræ, strigis quatuor inæquidistantibus obliquis subatris, prima ante medium, secunda in medio; tertia et quarta ultra medium. Alæ posticæ amplissimæ fuscæ sive fuliginoso-atræ immaculatæ.

pedaria. 6. G. (The pale Brindle) alis subpulverulentibus cinerascentibus, fœmina aptera.

Geometra Pilosaria. Hüb. Schmet. Geom. 34. 176.

Phalæna pedaria. Fab. Ent. Syst. 3. 148. 70.

HABITAT Imago f. Mar. Truncis.

EXPANSIO alarum M. 1 unc. 8 lin.

DESCRIPTIO. Præcedentibus pallidior, atque paulo gracilior. Antennæ maris, rachi tenuissimo griseo, radiis magnis nigris; fœminæ omnino setaceæ. Alæ anticæ punctis quatuor costalibus æquidistantibus, primâ basin versus, ultimâ juxtâ apicem, ex quibus sæpe excurrunt strigæ nunc 3 nunc 4, evanescentes griseæ. Alæ posticæ consimiles strigâ tantum unâ in medio. Margo ciliaris omnium strigâ tenui fuscâ plus minus interruptâ.

hispidaria. 7. G. (The small Brindle) alis pulverulentim cinereis, griseis, striga antica duabusque posticis externe dentatis fuscis; fœmina aptera.

Geometra Hispidaria. Hüb. Schmet. Geom. 34. 177.

Phalæna hispidaria. Fab. Ent. Syst. 3. 149. 71.

Phalæna Ursularia. Donov. Brit. Ins. 13. 447.

HABITAT apud nos infrequens, Imago f. Feb. Truncis quercûs et Salicis.

EXPANSIO alarum M. 1 unc. 3 lin.

DESCRIPTIO. Præcedentibus duplo minor. Antennæ maris valde pectinatæ, ferrugineæ. Alæ minus lutescentes, fasciâ terminali pallidiore; ciliis omnibus maculis magnis rhombeis fuscis. Posticæ pulverulentim cinereæ, strigâ mediâ saturatiore.

OBS. This is a scarce species, but occurs in many cabinets. We know an excellent collector, (Mr. Latham, of Compton Street) who has taken the sexes in copula, and assures us the female is apterous like the preceding; yet Mr. Donovan figures a winged male as the proper female, as appears by the masculine antennæ of his figure. So that he is mistaken as much in that respect, as he is in asserting the species to be nondescript and unique.

2. ATOMARIÆ. Alis atomoso cinereis subinde tincturâ ochracei, plus minus strigatis atque nebulosis, rarius fimbriatis.

G. (The great Oak-beauty) alis omnibus pulverulentibus cinereis, strigis undatis subinterruptis fuscis, lunula fusca medio posticarum. *Roboraria.* 8.

Geometra Roboraria. Hüb. Schmet. Geom. 32. 169.
Phalæna roboraria. Fab. Ent. Syst. 3. 137. 28.
Geometra grandaria. Prod. Lep. Brit. 20. 6.
HABITAT apud nos infrequens. Imago f. Jun. Sylvis.
EXPANSIO alarum M. 2 unc. F. 2 unc. 5 lin.
DESCRIPTIO. Alæ atomosæ, anticæ strigis quatuor valde interruptis fuscis subæquidistantibus. Posticæ strigis tribus, secundâ dentatâ. Pone primam lunula fusca.

G. (The pale Oak-beauty) alis omnibus pulverulentibus, strigis obsoletis dentatis saturatioribus; annuloque medio posticarum fuscis. *consortaria.* 9.

Geometra Consortaria. Hüb. Schmet. Geom. 32. 168.
Phalæna consortaria. Fab. Ent. Syst. 3. 137. 29.
HABITAT Imago i. Jun. Sylvis, at infrequens.
EXPANSIO alarum 2 unc.
DESCRIPTIO. Præcedenti simillima at minor, strigâ ultimâ anticarum magis dentatâ et conspicuiore. Dignoscitur primo intuitu, puncto annulari, nec solido in medio posticarum. Variat strigâ ultimâ anticarum plus minus conspicuâ.

G. (The mottled Beauty) alis omnibus fusco griseoque cinereis nebulosis, striga communi repanda nigra, aliaque postica alba intus fusca. *repandaria.* 10.

Geometra Repandaria. Hüb. Schmet. Geom. 30. 161.
Phalæna Geomatra repandata. Lin. Faun. Suec. 1260.
HABITAT Imago f. Jun. Sylvis.
EXPANSIO alarum 1 unc. 10-11 lin.
DESCRIPTIO. Antennæ nigræ, maris valde pectinatæ. Alæ minus pulverulentæ quam in præcedentibus, strigâ obsoletâ fuscâ communi subrepandâ ante, alterâque magis conspicuâ, magisque repandâ pone medium; et inter has macula fusca, loco stigmatis postici Noctuarum. Juxta marginem posticum

posticum striga alia dentatim repanda alba intus fusca, alteraque nigra tenuior, in margine ciliari.
β. Alis saturatioribus.

destrigaria. 11. G. (The light Mottled-beauty) alis omnibus griseo cinereis præatomosis nebulosis, striga communi postica repanda alba, intus cinerea.
Geometra conspersaria. Prod. Lep. Brit. 20. 9. *at forte non Fabricii;* certe nec Hübneri.
HABITAT, Imago f. Jul. Sylvis, at valde infrequens.
EXPANSIO alarum 1 unc. 11 lin.
DESCRIPTIO. Præcedenti nimis affinis, at pallidior, magisque atomosa; sed potissimum differt in absentia strigæ communis repandæ fuscæ medio alarum.

rhomboidaria. 12. G. (The willow Beauty) alis subfuscis atomis innumeris saturatioribus, strigis tribus subcommunibus nigris, alteraque postica undulata alba.
Geometra Rhomboidaria. Hüb. Schmet. Geom. 29. 154.
HABITAT Imago m. Jul. Sylvaticis, sæpibusque, etiam in Hortis.
EXPANSIO alarum 1 unc. 10 lin.
DESCRIPTIO. Præcedentibus simillima, staturâ minore, alis magis fuscescentibus; strigâ in medio posticarum tenuiore et magis denticulatâ, at strigâ proximâ earum marginem posticum versus, minus dentatâ.
β. Pulchrior, alis pallidioribus, characteribus saturatioribus.
Geometra Rhomboidaria. Hüb. Schmet. Geom. 32. 170.

consobrinaria. 13. G. (The tawny Beauty) alis pallide griseis atomosis, strigis communibus denticulatis saturatioribus, antennis valde pectinatis.
Geometra Consobrinaria. Hüb. Schmet. Geom. 29. 152?
HABITAT apud nos rarissime.
EXPANSIO alarum 1 unc. 10 lin.
DESCRIPTIO. Præcedente vix differt, nisi in alis griseis vel quasi ferrugineo-atomosis, strigâ posticâ albâ communi evanescente, et rachi antennarum maris albido, radiis validis brunneis.

Abietaria. 14. G. (The large Ingrailed) alis griseis atomosis, strigis communibus denticulatis saturatioribus; antennis hirto-pectinatis ferrugineis.
Geometra Abietaria. Hüb. Schmet. Geom. 30. 160?
HABITAT, Imago f. Mar. Sylvis, at valde infrequens.

EXPANSIO alarum 1 unc. 7 lin.
DESCRIPTIO. Præcedenti maxime affinis, differt coloribus magis ferrugineis, et potissimum structurâ antennarum, quæ lente, vel sine lente hirsutim pectinatæ, absque radiis validis.
β. Longe pallidior, et fere absque ferrugineo.
γ. Duplo minor, absque ferrugineo.

G. (The small Ingrailed) alis albidis subatomosis, strigis communibus denticulatis fuscis; antennis pectinato-villosis. *crepuscularia.* 15.
Geometra Crepuscularia. Hüb. Schmet. Geom. 30. 158.
HABITAT Imago Jul. Peridumetis, at infrequens.
EXPANSIO alarum 1 unc. 7 lin.
DESCRIPTIO. Præcedentibus simillima, sed dignoscitur facile alis longe albidioribus, staturâque minore.

G. (The brindled White-spot) alis cinereo-griseis atomis maculisque fuscis maculaque obsoleta postica alba. *extersaria.* 16.
Geometra Extersaria. Hüb. Schmet. Geom. 30. 159.
HABITAT, Imago sylvis, valde infrequens.
EXPANSIO alarum 1 unc. 4 lin.
DESCRIPTIO. Penultimæ valde affinis at minor, et minus distincte strigata, præcipue in alis posticis. Potissimum differt maculâ albâ obsoletâ anticarum juxta marginem posticum in medio. Alæ posticæ absque striga. Antennæ maris lente, pectinato-pubescentes. Imprimis communicavit amicus D. Lindegren.

G. (The brindled Grey) alis cinerascentibus atomosis, strigis communibus valde interruptis vix undulatis, antennis lente pectinato-villosis. *consonaria.* 17.
Geometra consonaria. Hüb. Schmet. Geom. 30. 157.
HABITAT apud nos rarissime, Imago, sylvis prope Londinum Mai. Exemplarium unicum solum vidi.
EXPANSIO alarum 1 unc. 7 lin.
DESCRIPTIO. Strigæ valde obsoletæ et interruptæ, anteriores fuscæ, postica juxta marginem posticum alba intus cinerea. Penultimis potissimum differt in striga medio posticarum, quæ validior, fusca et parum repanda, nec ullo modo denticulata.

G. (The grey Birch) alis albidis, atomoso canescentibus strigis 3-4 subcommunibus undulatis arcuatis subinterruptis fuscis. *punctularia.* 18.
Geometra punctularia. Hüb. Schmet. Geom. 61. 317.
HABITAT

HABITAT apud nos infrequens. Imago. m. Mai. Truncis Betulæ.
EXPANSIO alarum 1 unc. 1-2 lin.
DESCRIPTIO. Strigæ alarum æquidistantes extus arcuatæ, prima juxta basin, quarta marginem posticum versus; sæpe evanescens, extus albicans. Strigæ in alis posticis magis evanescentes. Cilia omnia alba fusco-punctata.

favillacearia. 19. G. (The grey Scolop) alis albis, subpulverulentim canescentibus, strigis duabus pectinatis, punctoque interjecto fuscis.
Geometra Favillacearia. Hüb. Schmet. Geom. 26. 139.
The Grey Scolop. Harris's Aurelian, with a figure.
Phalæna medio-punctaria. Don. Brit. Ins. vol. 13. 461. 1.
HABITAT in Com. Ebor.
EXPANSIO alarum 1 unc. 5-6 lin.
DESCRIPTIO. Striga prima ante medium alarum anticarum, recta, dentibus 1-2, rectis; secunda communis undata, intus dentato-pectinata; puncto majusculo, nigro, inter strigas. Præterea striga marginalis punctorum nigrorum. Posticæ puncto medio, fusco: ciliis omnibus fuscescentibus.

ericetaria. 20. G. (The bordered Grey) antennis amplissime pectinatis, alis omnibus fascia marginali fusca. V.
Phalæna Geometra Ericetaria. Vill. Ent. 2. 529. 493. *cum icone.*
HABITAT in Anglia valde infrequens. Ex Bedfordia communicavit ejus captor C. Abbott. D. D.
EXPANSIO alarum 1 unc. 7 lin.
DESCRIPTIO. Alæ albicantes atomis minutissimis numerosissimis fuscis. Puncta tria costalia æquidistantia fusca quod fere punctatim exeunt in strigas transversas, primâ ante medium evanescente, secundâ in medio validiore latiore, tertiâ posticâ omnino punctari. Tunc fimbria fusca communis. Posticæ alæ etiam fusco-atomosæ, puncto medio majore fusco.

Piniaria. 21. G. (The bordered White) pectinicornis alis fuscis flavo-maculatis, subtus nebulosis: fasciis duabus fuscis. L.
Geometra Piniaria. Hüb. Schmet. Geom. 22. 119. 120.
Phalæna Geometra Piniaria. Lin. Faun. Suec. 1233.
Phalæna Piniaria. Fab. Ent. Syst. 3. 141. 45.
HABITAT Imago Jun. Pinetis. In Scotia copiose legit W. J. Hooker.
EXPANSIO alarum 1 unc. 7 lin.
OBS. Having only german specimens of this insect, their description is here omitted. The species is well known;

J. P. Neale,

J. P. Neale, F. E. S. having lately found it in England; and W. J. Hooker, F. L. S. in Scotland (as he writes me) " in exceeding abundance, in the fir woods on " the hill of Kinnoul, by Perth, in the middle of June." The males are said to fly slowly by day amongst the branches of scotch firs, but rarely approach the ground, unless driven by the wind. The females seldom fly.

G. (The dark-bordered Usher) alis albidis fusco-atomosis, fascia basi, fimbriaque triloba nigris. *nigricaria.* 22.

Geometra Nigricaria. Hüb. Schmet. Geom. 35. 181.

HABITAT. Imago. f. Feb. quercetis, cum sequente, at rarior, volatu vacillante diurno.

EXPANSIO alarum M. 1 unc. 4 lin.

DESCRIPTIO. Fascia lata marginalis nigra intus triloba, strigâ subinde intra fasciam, ex maculis 3-6, albicantibus. Posticæ albidæ atomosæ, maculâ ani anguli nigrâ.

β. Posticis fimbriâ nigrâ.

G. (The Spring Usher) alis griseo-cinereis nebulosis, striga basi incurva, alteraque medio repanda nigris. *leucophearia.* 23.

Geometra Leucophearia. Hüb. Schmet. Geom. 37. 195.

HABITAT quercetis frequens, volatu parvo vacillante diurno. Imago. Feb. Siccifoliis.

EXPANSIO alarum maris, 1 unc. 4 lin.

DESCRIPTIO. Inter strigas, striga alia sæpe, plus minus evanescens. Maxime variat, alis plus minus griseo-cinereis et nebulosis. Alæ posticæ albidæ atomis numerosis fuscis, strigâque medio ex punctis paucis distantibus nigris, quæ subinde evanescit. Fœmina alis trilinearibus griseo-rufis, atomosis, strigâ anticâ, alterâque communi, medio, nigris. Margo omnis posticus strigâ uninterruptâ, nigra.

OBS. According to the observations of the Rev. Mr. Burrell, this and the preceding article fly slowly undulating by day, between the hours of eleven and two, rarely ascending higher than the tops of underwood.

G. (The mourning Widow) abdomine alisque omnibus nigris; postice griseis atomosis, ordine obscuro macularum fuscarum. *luctuaria.* 24.

HABITAT apud nos rarissime. Imago Mar. Exemplarium unicum Fœminæ solum vidi.

EXPANSIO alarum incompletarum 6 lin.

DESCRIPTIO. Abdomen nigrum subgrossum, cingulo antico sordide rufo. Alæ omnes nigræ a basi post medium, tunc pallide griseæ usque ad finem; margine ipso postico strigâ communi

muni uninterruptâ nigrâ. Inter nigredinem et apicem ordo obsoletus macularum subfuscarum. Species distincta characteribus novis appareat, cujus marem nondum vidi. Vix varietas fœminæ precedentis.

Lichenaria. 25. G. (The Brussels Lace) alis viridi albidoque cinereis, atomosis, striga antica subincurva, alteraque communi postica prærepanda denticulataque nigris.
Geometra Lichenaria. Hüb. Schmet. Geom. 31. 164.
Phalæna Lichenaria. Fab. Ent. Syst. 3. 145. 59.
EXPANSIO alarum 1 unc. 3-4 lin.
DESCRIPTIO. Posticæ alæ pone strigam sæpe paululum saturatiores. Variat alis pallidioribus utroque sexu.
HABITAT Imago f. Jul. Sylvaticis, vix infrequens.

Atomaria. 26. G. (The common Heath) alis albido-lutescentibus præatomosis, strigis subanastomosantibus fimbriaque saturatioribus communibus.
Geometra Atomaria. Hüb. Schmet. Geom. 25. 136.
Phalæna Geometra atomaria. Lin. Faun. Suec. 1245.
Phalæna atomaria. Fab. Ent. Syst. 3. 144. 56.
HABITAT Ericetis, Imago. i. Jun. copiose.
EXPANSIO alarum 1 unc. 3 lin.
DESCRIPTIO. Valde variat. Antennæ maxime pectinatæ nigræ albo annulatæ, radiis nigris. Alæ albidæ vel paululum lutescentes fusco præatomosæ, strigis communibus latis fuscis circiter 5, secundâ tertiâque sæpe anastomosantibus, quintâ in ipso margine, subinde confluente cum quartâ in unam. Strigæ sæpe plus minus evanescunt.

glarearea. 27. G. The yellow Heath) alis luteis præatomosis strigis fimbriaque obscuris communibus fuscis anastomosantibus.
Geometra Glarearia. Hüb. Schmet. Geom. 25. 131.
HABITAT cum priore, copiose, et forte mera ejus varietas.
EXPANSIO alarum 1 unc. 3 lin.
DESCRIPTIO. Præcedenti vix differt nisi in colore luteo, strigisque obscurioribus et forte paucioribus.

roseidaria. 28. G. (The light Heath) alis albis fusco atomosis, strigis subquatuor subanastomosantibus fuscis.
Geometra Roseidaria. Hüb. Schmet. Geom. 24. 128.
HABITAT, cum prioribus at longe infrequentior.
EXPANSIO alarum 1 unc. 1 lin.
DESCRIPTIO. Forte mera varietas fœminæ penultimæ, at minor, magis alba, strigâ quartâ maculari, fimbriâ nullâ.
OBS. I am not at present sufficiently acquainted with the three

three preceding articles, to determine whether they are species or varieties, but before the above cited figures reached me, had described them as varieties only. There are still other kinds allied to these in Germany, and which this country also probably possesses; but the very low state of the entomological science here, especially in the knowledge of Lepidoptera, does not at present enable me to determine. In this order I labor nearly alone, very few of our Moth collectors being scientific ones; and for several years have not been able to learn any thing as to lepidopterous nomenclature from any one. Books alone have been my guides.

"Non omnia possumus omnes."

G. (The black Heath) alis omnibus saturate piceo-fuscis, punctis vel maculis paucis albidis, ciliis albis fuscisque. *carbonaria.* 29.
Phalæna Geometra carbonaria. Lin. Faun. Suec. 1246?
HABITAT apud nos rarissime. Exemplarium unicum fœminæ solum vidi, Imago m. Jun. Ericetis.
EXPANSIO alarum 11 lin.
DESCRIPTIO. Præcedenti, nimis affinis, at longè minor. Antennæ nigræ albo irregulariter annulatæ. Vix Ph. G. carbonaria. Lin.

G. (The waved Black) pectinicornis nigra, alis strigis tribus albidis undatis subinterruptis: antica remotiore. L. *fuliginaria.* 30.
Phalæna carbonaria. Fab. Ent. Syst. 13. 154. 88.
Phalæna Geometra fuliginaria. Lin. Faun. Suec. 1247.
Phalæna lanulata. Fab. Ent. Syst. 3. 194. 235.
Geometra Carbonaria. Hüb. Schmet. Geom. 98. 151.
HABITAT apud nos valde infrequens, Imago m. Jun. Hortis in Musæis quatuor solum vidi.
EXPANSIO alarum 11 lin.
DESCRIPTIO. Niger vel ater, antennis valde pectinatis. Strigæ flavescentes undulatæ, prima juxta basin parum incurva at subinde evanescit, secunda communis paululum pone medium, extus valde arcuata, tertia obscura inter ultimam et marginem; pone hanc subinde striga alia communis at obsoleta punctorum flavescentium.

G. (The black Mountain Moth) alis fuliginosis, fascia media saturatiore, utraque dentata pallidoque submarginata. *trepidaria.* 31.
Geometra Trepidaria. Hüb. Schmet. Geom. 66. 343.
HABITAT in Scotia Montibus altissimis, Imago. f. Jun. celeri volatu. W. J. Hooker.

EXPANSIO alarum 10 lin.

DESCRIPTIO, ater ani barbâ tarsisque, fuliginosis. Caput, thorax, pectus, et palpi conspicui porrecti, hirsuta, pilis longis atris. Antennæ supra atræ, subtus fuliginosæ filiformes. Alæ anticæ basi fuliginoso-atræ, lineâ brevi, obsoletâ aterrimâ: tunc fere in medio fascia obliqua, fuliginoso-atra, costam versus valde dilatata et saturatior; includens punctum aterrimum, ordinarium, loco stigmatis antici, Noctuarum. Pone fasciam, certis lucis, striga lata, obsoletissima, nigricans; terminans in maculam aterrimam, costæ. Ipsa costa basi, paululum incrassata, gibba. Posticæ fere omnino atro-fuliginosæ. Margo ipse posticus strigâ tenuissimâ, communi, interruptâ, aterrimâ, ciliis omnibus, validis, fumosis.

An hujus generis?

OBS. This moth was communicated by my friend W. J. Hooker, F. E. S. with the following remarks, requesting it might be called Phalæna nivalis, if it proved to be a new species.

" It was on the very summit of Scheallion one of the Breadalbane mountains, and 2564 feet above the level of the sea. At the time I took it the north and east sides of the neighbouring mountains, of nothing like that elevation, were covered with snow: this was on the 30th of June. Scarcely any other plant could vegetate but Trichostomum lanuginosum, and a few patches of the fine Splachnum fastigiatum. The Moth was rapid on wing, tolerably plentiful, and rendered doubly difficult to take from the huge masses of naked rock with which the summit of Scheallion is covered, which rendered running dangerous, and often impracticable."

V. nigraria. 32. G. (The sooty V.) alis cinereo-nigris, litera V medio, costam versus atra.

* † *Geometra V. nigraria. Trans. Entom. Soc. Lond. pars. 2. cum icone.*

HABITAT prope Londinum, at rarissimè. Imago Jul. Exemplarium unicum, in Musæo ejus captoris, J. Hatchett, solum vidi.

EXPANSIO alarum

DESCRIPTIO. Cauda, sive basis literæ V, extrorsum spectat in alis expansio. Posticæ pallidiores, margine nigricante. Antennæ subrufæ, radiis mediocribus, nigris. Thorax posticè cinereus.

Forte varietas Geometræ horridariæ.

OBS. Vix varietas præsingularis G. Vauariæ.

G. The

G. (The common V. Moth) pectinicornis, alis cinereis: anticis fasciis quatuor nigris abbreviatis inæqualibus. L. *Vauaria.* 33.

Geometra Wauaria. Hüb. Schmet. Geom. 11. 55.

Phalæna Geometra Wauaria. Lin. Faun. Suec. 1248.

Phalæna Wauaria. Fab. Ent. Syst. 3. 150, 75.

HABITAT nimis frequens in Anglia. Larva in Grossulariâ quæ subinde male devastat. Imago Hortis frequentissime omnium Geometrarum, Jun. Jul.

EXPANSIO alarum 1 unc. 2-3 lin.

DESCRIPTIO. Alæ albicantes subcinereæ, anticæ maculis costalibus subfasciæformibus æquidistantibus nigris, primâ parum flexâ secundâque sæpe obconicâ ante medium, quæ exserit strigam flexam evanescentem ad marginem tenuiorem. Litera V nigra connexa est huic maculæ externè. Macula tertia postica extrorsum obliqua, et terminat in strigam obsoletam punctorum nigrorum: quarta est juxta apicem antrorsum obliqua, cæteris major et lituræformis. Posticæ puncto parvo medio fusco.

OBS. The location of some of the last species is less natural than could be wished, but it is at present no easy task to distribute them more appropriately.

3. RUFESCENTARIÆ, alis integris rufescentibus, fulvis, ochraceisve, strigatis vel fimbriatis, undique plus minus fusco-atomosis.

G. (The Orange) alis dentatis, maris fulvis, fœminæ luteis, omnibus fusco-pulverulentibus, comma medio fusca. *Prunaria.* 34.

Geometra Prunaria. Hüb. Schmet. Geom. 23. 123. Mas.

Phalæna Geometra Prunaria. Lin. Faun. Suec. 1332.

Phalæna Prunaria. Fab. Ent. Syst. 3. 141. 43.

HABITAT. Larva in Pruno, Imago f. Jun. Nemoribus frequens.

EXPANSIO alarum M. 2 unc. F. 2 unc. 2 lin.

DESCRIPTIO, Larva ferruginea: dorso antice posticeque spinis duabus. Fab. l. c.

Imago maxime variat.

α, ut in charactere specifico.

β, alis luteo-fuscis, disco anticarum maris rufo, omnium fœminæ flavo.

Geometra Prunaria. Hüb. Schmet. Geom. 23. 122. *Fœm.*

Phalæna Geometra Dimidiata. Villars Ent. 2. 335. 508?

HABITAT, valde infrequens cum priore.

γ. alis fuscis, fascia medio anticarum, maculaque medio posticarum rufis. Varietas maris.

HABITAT

HABITAT cum α et β at vix frequens.

OBS. The above insects are universally reputed to be varieties of Geometra Prunaria, but upon what authority it is not easy to determine. If no more than variations, it must at least be allowed that they are very strong; very constant; and very remarkable ones.

suberaria. 35. G. (The large Waved-Umber) alis dentatis, quasi suberosis, subatomosis, fascia communi postica obliqua fusco-brunnea pone punctum fuscum.

Geometra suberaria. Don. Brit. Ins. pl. 251.

Geometra Petrificata. Hüb. Schmet. Geom. 52. 267.

HABITAT apud nos infrequens, Imago i. Jun. Sylvaticis.

EXPANSIO alarum M. 1 unc. 7 lin. F. 1 unc. 8. lin.

DESCRIPTIO. Alæ omnes pallidæ ochraceæ nebulosæ, anticæ strigis duabus tenuissimis præobliquis repandis nigris, una ante, altera post medium, puncto parvo fusco interjecto: pone strigas atque in costa color hinc illinc saturatior at plus minus brunneus. Posticæ fusco lineolatim crebre striatæ, sed minus apicem versus quam anticè, fasciâ latâ brunneâ medio, in qua striga undulata tenuis nigra. Margo ipse omnium alarum strigâ nigrâ repandatâ, ciliis ochraceis.

defoliaria. 36. G. (The mottled Umber) alis albidis, griseis, ferrugineisve, atomosis, striga incurva ante, alteraque obliqua repanda pone medium, punctoque interjecto fuscis.

HABITAT, Larva in Tilia atque in quercu, copiosa æstate; Imago ♂ Oct. Truncis, frequens.

EXPANSIO alarum M. 1 unc. 7-8 lin.

DESCRIPTIO. Species valde instabilis, fœmina aptera, plus minus flava, et fusco punctata, maculataeve.

α. Alis albicantibus fusco atomosis, striga ante mediam incurva nigra, intus usque ad basin et vix interruptè rufa: puncto fusco medio at costam versus: tunc striga pone medium et pene postica nigra obliqua repanda. Pone strigam alæ saturatiores quasi fasciâ rufâ, quæ fascia marginata est subinde maculis paucis fuscis. Margo ipse posticus ordine punctorum fuscorum. Posticæ albæ atomis saturatioribus, sæpe evanescentibus, puncto medio fusco ciliis immaculatis.

Phalæna Geometra defoliaria. Lin. Faun. Suec. 1238.

Geometra Defoliaria. Hüb. Schmet. Geom. 35. 182.

β. Alis ferrugineis, fascia antica incurva ante, aliaque obliqua repanda pone medium, punctoque interjecto fuscis; margine

margine ipso anticarum obsolete fusco punctato: alis posticis ut in α.

γ. Ultimâ varietate longe saturatior, margine postico impunctato.

δ. Alis anticis rufis vel ferrugineis, fusco minutim atomosis, striga antica primæ varietatis, sæpe evanescente; margine postico impunctato.

ε. Alis anticis toto sordide rufis, fusco minutim atomosis, absque fascia strigave.

Obs. Of this beautiful, but inconstant species I formerly conceived the Phalæna Geometra testacearia, of Villars was a variety: but now suppose it rather belongs to the next.

Obs. 2. It is also more than probable that the Phalæna diversaria of Fab. Ent. Syst. 3. 157. 101. is no more than another variation of this unstable species; differing from var. ε, in being rather paler; and in having a dotted margin to all the wings. If not, it may be a variety of the next, with obliterated striga.

G. (The scarce Umber) alis anticis testaceis, atomosis, striga antica obliqua, alteraque parum postica communi repanda subevanescente fuscis. *prosapiaria.* 37.

Phalæna prosapiaria. Fab. Ent. Syst. 3. 144. 57. *exclusis synonymis.*

Geometra Aurantiaria. Hüb. Schmet. Geom. 35. 184.

Habitat cum præcedente, at valde infrequentior. Imago 6 Oct. apud Coomb Wood Truncis.

Expansio alarum 1 unc. 8 lin.

Descriptio. Præcedenti simillima: pallidior, margine postico anticarum plerumque, posticarum (nostris exemplaribus) semper plus minus fusco punctato: striga antica non incurva, sed oblique recta, postica paulo minus repanda et tenuiter communi: inter strigam posticam et marginem ordo interruptus macularum fuscarum.

β. Minor striga tenuissima posticarum omnino obliterata, ordine macularum posticarum maculis magis confluentibus; margineque omni postico ordine punctorum fuscorum.

Phalæna Geometra testacearia. Vill. Ent. 2. 321. *cum icone.*

γ. Minor duplo striga tenuissima posticarum ducta per punctum parvum ordinarium fuscum in medio, nec infra ut in varietatibus prioribus; margineque omni postico ordine punctorum fuscorum.

G. (The connecting Umber) alis atomosis fusco-brunneis, strigis tribus æquidistantibus fuscis, maculaque postica centali quadrata pallida. *connectaria.* 38.

Habitat

HABITAT apud nos rarissime, Imago Oct. Communicavit amicus J. Hatchett.
EXPANSIO alarum 1 unc. 7 lin.
DESCRIPTIO. Alæ anticæ atomoso-brunneo-fuscæ, vel fusco-brunneæ, strigâ fuscâ prope basin paululum incurvâ, secundâ crassiore obliquâ rectâ fere in medio, tertiâ posticâ repandâ; et inter hanc et marginem, striga alia obsoleta ex maculis pallidis subdistantibus. In sinu strigæ tertiæ interne ad costam, macula majuscula trapeziformis pallida fusco atomosa. Posticæ albidæ atomis minutissimis saturatioribus, strigis duabus evanescentibus medio, punctoque interjecto fuscescentibus. Margo omnis posticus ordine punctorum fuscorum.
OBS. This odd insect is so singularly intermediate between the last described autumnal species and the following vernal one, that if it should prove to be a variety only, I really do not know to which of them to refer it. And to sink the three into one species, would be an error of a capital kind.

stictaria. 39. G. (The dotted Border) alis griseo-rufescentibus atomosis, striga recta antica evanescente, fasciaque marginali saturatioribus, in qua ordo macularum pallidarum.
Geometra stictaria. Marsh. M. S. et Prod. Lep. Brit. 21. 20.
Geometra Progemmaria. Hüb. Schmet. Geom. 35. 183.
HABITAT, Imago m. Mar. Sepibus, at vix frequens.
EXPANSIO alarum 1 unc.
DESCRIPTIO. Margo costalis minus, et magis tenuiter niger, quam in margine postico. Alæ posticæ paululum magis atomosæ. Fœmina minus intense lutea, antennis setaceis.
" Alæ subtus ferrugineæ fusco irroratæ, posticæ ferrugineæ atomis margineque postico fuscis, subtus nigræ albo striatæ." *Fab. l. c.*
β. Varietas fœminæ, alis posticis saturatioribus quam in α, vel luteo-fuscis, sive sordide luteis fusco magis at minutim atomosis.
OBS. The location of this singular species is objectionable; but at present, I know not where better to dispose of it. Hübner places it near G. Piniaria.

limbaria. 40. G. (The frosted Yellow) alis omnibus luteis fusco minutim atomosis, antennis, costâ, margineque postico nigris.
Phalæna limbaria. Fab. Ent. Syst. 3. 141. 46.
Geometra conspicuaria. Hüb. Schmet. Noct. 22. 117. 118.
HABITAT spartiosis, Imago volatu diurno.
EXPANSIO alarum 1 unc. 7 lin.

DESCRIPTIO. In exemplaribus præclaribus sæpe striga basi incurva, secundaque ante medium obliqua recta, saturatiores ut in præcedente, at longe obsoletiores. Punctum oblongum fuscum medio, costam versus, strigam tertiam attingens: pone hoc, striga tertia, repanda, fusca, ad fasciam rufam adnata, quæ extus marginata est ordine macularum pallidarum. Margo omnis posticus ordine punctorum nigrorum ut in præcedentibus. Posticæ albicantes, tinctura grisei, et minutim atomosæ, strigâ fuscâ tenuissimâ mediâ, pone punctum medio fuscum. Fœmina aptera, abdomine magis grosso quam in mare, ano parum barbato.

β. Alis anticis pone strigam tertiam repandam toto piceis, absque ordine macularum pallidarum. Varietas maris.

4. STRIGARIÆ, alis strigis duabus tribusve obliquis rectis, anticâ parum incurvatâ.

G. (The Belle) alis cinerascentibus, strigis tribus obliquis rectis æquidistantibus, lineolaque apicis fuscis, fulvo adnatis. *plumbaria.* 41.

Geometra palumbata. Hüb. Schmet. Geom. 42. 221. *Fœm.*
Phalæna Plumbaria. Fab. Ent. Syst. 3. 160. 110.

HABITAT, In Ericetis vulgaris, Imago f. Jun. volatu partim diurno.

EXPANSIO alarum 1 unc. 4-5 lin.

DESCRIPTIO. Alæ pallide fuscescentes vel plumbescentes, atomis numerosis minutissimis nudo oculo vix conspicuis fuscis. Striga prima juxta basin: secunda ad costam subuncinata, ante, tertia magis obliqua pone medium. Inter has ultimas punctum fuscum medio alæ costam versus. In apice ipso lineola obliqua quæ sæpe exserit strigam evanescentem undulatam albicantem. Cilia fusca. Posticæ alæ albicantes, sæpe strigâ in medio saturatiore evanescente; strigâque aliâ interdum, in ipso margine postico fuscâ. Fœmina mari simillima, antennis setaceis, et in nostris exemplaribus, characteribus distinctioribus.

G. (The straw Belle) alis sulphureis atomis majusculis, puncto, strigaque præobliqua fuscescentibus. *gilvaria.* 42.

Geometra Gilvaria. Hüb. Schmet. Geom. 38. 201.

HABITAT, apud nos infrequentissime. Exemplaria tria solum vidi.

EXPANSIO

EXPANSIO alarum 1 unc. 4-5 lin.

DESCRIPTIO. Antennæ maris valde pectinatæ, rachi pallescente, radiis nigris. Alæ anticæ puncto ut in præcedente, strigaque fere a medio marginis tenuioris, oblique ad costam prope apicem. Posticæ magis albicantes, minus atomosæ, puncto medio at costam versus, strigâque posticâ transversâ fuscescentibus.

citraria. 43. G. (The yellow Belle) alis flavis atomis majusculis, strigis duabus, punctoque interjecto fuscis.

Geometra Citraria. Hüb. Schmet. Geom. 40. 212.

Geometra Trifoliaria. Prod. Lep. Brit. 28. 70.

HABITAT in Cantiæ Agris, at infrequens. Imago i. Jul. volatu partim diurno.

EXPANSIO alarum M. 1 unc. 4 lin.

DESCRIPTIO. Striga prima parum incurva ante medium, secunda postica obliqua communis, puncto anticarum subinde annulari interjecto, costam versus. Posticæ pallidiores puncto medio, antennisque maris, pene ut in præcedente.

5. UNDARIÆ, alis albis albidisve, atomis fuscis, strigisque sæpius tribus sub-communibus parum undulatis.

strigillaria. 44. G. (The ingrailed Wave) alis atomosis cinerascentibus, strigis quatuor sub-æquidistantibus fulvo-fuscis.

Phalæna Geometra Strigillaria. Hüb. Beit. 1. 2. 2. K.

HABITAT apud nos Imago in Cantio, valde infrequens.

EXPANSIO alarum 1 unc. 6 lin.

DESCRIPTIO. Strigæ omnes obliquæ: vix ullo modo undulatæ: prima ante, secunda in tertiâ communis pone medium: quarta inter ultimam et apicem. Posticæ consimiles strigis tribus inæquidistantibus, primâ communi in medio, secundâ et tertiâ magis approximatis posticis.

inæquaria. 45. G. (The larger grass Wave) alis atomoso-cinereis strigis tribus inæquidistantibus fuscescentibus.

Geometra majuscularia. Prod. Lep. Brit. 28. 65.

HABITAT Imago i. Jun. Sylvaticis at rarius.

EXPANSIO alarum 1 unc. 5-6 lin.

DESCRIPTIO. Præcedenti nimis affinis at minor et albidior, strigâque quartâ omnino obliteratâ, primâ atque secundâ magis approximatis. Posticæ strigis tantum duabus in medio, primâ communi ut in priore.

G. (The

G. (The lesser Grass Wave) alis atomoso-cinereis, strigis tribus æquidistantibus. *respersaria.* 46.

Geometra Respersaria. Hüb. Schmet. Geom. 23. 125.

HABITAT in Ericetis frequens, Imago Jun.

EXPANSIO alarum 1 unc. 5 lin.

DESCRIPTIO. Ultimæ simillima, et forte varietas, differt in statura minore, colore alarum albidiore strigisque æquidistantibus. Interdum striga quarta appareat et tunc valde simulat penultimam, at longe minor et pallidior. Strigæ posticarum exacte ut in penultima, at magis fuscæ.

OBS. Ultimæ tres forte merè varietates sunt.

G. (The common Wave) alis albidis parum fusco atomosis, strigis tribus in medio undulatis æquidistantibus fusco-lutescentibus, ultimis communibus. *striaria.* 47.

Geometra Striaria. Hüb. Schmet. Geom. 17. 88.

HABITAT, Imago sylvaticis humidis vulgaris Mai, &c.

EXPANSIO alarum 1 unc.—1 unc. 2 lin.

β. Strigâ anticâ omnino obliteratâ.

γ. Strigis omnibus omnino obliteratis.

G. (The sandy Wave) alis sordide albidis, valde fusco atomosis vel arenosis, strigis tribus in medio undulatis fuscescentibus æquidistantibus ultimis communibus. *arenosaria.* 48.

HABITAT cum priore, frequens.

EXPANSIO alarum 1 unc.—1 unc. 3 lin.

OBS. Præcedente solum differt alis saturatioribus et magis arenosis, at constans.

β. Strigis omnibus omnino obliteratis.

G. (The twin-striped Wave) alis sordide albidis, valde fusco atomosis arenosisve, strigis duabus communibus flavicantibus in medio, antica anticarum geminata. *approximaria.* 49.

Geometra approximaria. Prod. Lep. Brit. 23. 68.

HABITAT cum prioribus; at longissime rarior. Exemplaria tria solum vidi.

EXPANSIO alarum 1 unc. 3 lin.

OBS. Præcedente solum differt in strigis duabus anticis anticarum coeuntibus fere in unam.

G. (The round-winged Wave) alis rotundatis albis fusco subatomosis, strigis duabus medio communibus subundulatis plumbescentibus, antica anticarum geminata. *rotundaria.* 50.

HABITAT cum prioribus at fere rarissime. In Museis duobus solum vidi. Imprimis communicavit ejus captor amicus D. Lindegren.

EXPANSIO alarum 1 unc. 3 lin.

pusaria. 51. G. (The common white Wave) alis albis fusco subatomosis, strigis tribus medio æquidistantibus subundulatis plumbescentibus, ultimis communibus.
Geometra Pusaria. Hüb. Schmet. Geom. 17. 87.
Phalæna Geometra pusaria. Lin. Faun. Suec. 1251.
Phalæna pusaria. Fab. Ent. Syst. 3. 146. 61.
HABITAT cum prioribus, frequentissime.
EXPANSIO alarum 1 unc. 3-4 lin.
β. Strigis omnibus pene obliteratis.
γ. Alis longioribus, cæteris ut in α.
δ. Alis longioribus quam in α, et absque strigis.

6. ANGULARIÆ, alis plus minus dentato angulatis, vel ad apicem angulato-acutis, sæpius rufescentibus atque atomosis. Forte genus proprium, nempe Larvæ gaudent subinde pedibus quatuordecim. An semper?

pennaria. 52. G. (The feathered Thorn) rufa, alis vix dentatis acutis, strigis duabus incrassatis ad costam, punctoque interjecto saturatioribus; punctoque alio albissimo juxta apicem.
Geometra Pennaria. Hüb. Schmet. Geom. 3. 14.
Phalæna pennaria. Fab. Ent. Syst. 3. 133. 14.
Phalæna Geometra pennaria. Lin. Syst. Nat. 2. 861. 209.
HABITAT, Imago i. Nov. Sylvis.
EXPANSIO alarum 2 unc.
DESCRIPTIO. Tota rufa, vix atomosa, antennis plumosis elegantissimis magnis radiis: strigâ primâ alarum rectâ at obliquâ ante, secundâ parum curvâ pone medium rufo-fuscâ, extus albidâ, inter hanc et apicem infra costam punctum albissimum. Posticæ pallidiores, strigâ unicâ transversâ medio, pone punctum fuscum. Fœmina plerumque minus rufa antennis setaceis, strigâ posticarum sæpe plus minus obliteratâ.
β. Magis rufa; fœminæ varietas singularis. Communicavit ex Bedfordia, ejus captor C. Abbott, D. D.
γ. Minor duplo vel plus, minus rufa quam α atomis numerosis minutissimis fuscis, puncto juxta apicem nec albissimo, sed infuscato; alis posticis subroseis. Varietas Fœminæ.

G. (The

G. The Fork-striped) alis rufescentibus, striga lata rufa, marginem crassiorem versus bifida. *bifidaria.* 53.
HABITAT in Anglia rarissime. In Musæo D. Swainson. *
DESCRIPTIO. Alæ posticæ rufescentes, puncto medio fuscescente. Valde affinis G. pennariæ, at distincta. †

G. (The scolloped Oak) alis vix dentatis acutis subluteis, medio strigis duabus saturatioribus, puncto fusco interjecto. *elinguaria.* 54.
Geometra Elinguaria. Hüb. Schmet. Geom. 4. 20.
Phalæna elinguaria. Fab. Ent. Syst. 3. 159. 107.
Phalæna Geometra elinguaria. Lin. Faun. Suec. 1235.
HABITAT Imago m. Aug. Peridumetis.
EXPANSIO alarum 1 unc. 7 lin.
DESCRIPTIO. Lutescens, strigâ primâ alarum rectâ ante, secundâ oblique subrepandâ pone medium, inter has color paululum saturatior. Posticæ immaculatæ.
OBS. Strigæ ad marginem tenuiorem minus distantes, quam ad costam.

G. (The scoloped Hazel) alis maris repandis, fœminæ erosodentatis, rufo-fuscescentibus atomosis, strigis duabus undulatis annuloque interjecto fuscis. *bidentaria.* 55.
Geometra Dentaria. Hüb. Schmet. Geom. 3. 12. *Fœm.*
Phalæna bidentaria. Fab. Ent. Syst. 3. 133. 15.
Phalæna Geometra bidentata. Lin. Faun. Suec. 1255.
HABITAT. Imago f. Ap. et i. Jun. Peridumetis, at infrequens.
EXPANSIO alarum 2 unc. 1 lin.
DESCRIPTIO. Alæ maris rufo-fuscescentes; fœminæ rufæ, strigis fere ut in priore, at undulatis vel denticulatis; secunda communi. Posticæ annulo fusco medio ante strigam. Alæ fœminæ longe magis dentatæ.
β. Minor, strigâ posticarum, annulo fusco adnatâ. Varietas fœminæ.

G. (The purple Thorn) alis erosis, basi post medium communiter brunneo cinereoque variis, lunula nivea, limbo albido purpurascente, apice sub-denticulatim truncato, brunneo. *illustraria.* 56.
Geometra Illustraria. Hüb. Schmet. Geom. 7. 33.
HABITAT apud nos valde infrequens, Imago f. Mai—f. Sept.
EXPANSIO alarum M. 2 unc. 1 lin.
DESCRIPTIO. Alæ anticæ strigâ obsoletâ incurvatim flexuosâ fuscâ ante medium. Posticæ similes sed rotundatæ puncto brunneo postico maculæformi. Subtus alæ etiam consimiles at varie et perpulchre luteæ atque purpurascentes.

centes. Alæ omnes, lunulâ niveâ utrinque; in medio posticarum, at pone medium subtus costam in anticis.
β. Duplo vel triplo minor. Forte distincta.
EXPANSIO alarum 1 unc. 5-6 lin.

lunaria. 57. G. (The lunar Thorn) alis erosis griseo-albidis, obsolete atomosis; apice denticulatim truncato, strigis duabus, lunulâ niveâ interjectâ, brunneis.
Geometra Lunaria. Hüb. Schmet. Geom. 7. 35.
Phalæna lunaria. Fab. Ent. Syst. 3. 136. 26.
HABITAT rarius apud nos, Imago, m. Jun. Sylvis.
EXPANSIO alarum 1 unc. 7 lin.
DESCRIPTIO. Alæ anticæ eroso-angulatæ, retusæ, cinereo-rufescentes, vix atomosæ, strigis lunulisque ut in præcedente, (cui simillima) at obsoletioribus, et fere absque purpureo. Striga prima ante medium incurva, secunda recta paululum post medium, at vix pone lunulam albam. Apex ipse retusus denticulatus, semilunâ rufâ ut in ultima. Posticæ rotundatæ pallidiores, argute at irregulariter dentatæ, lunulâ medio albâ fusco cinctâ ante strigam gracilem subrepandam fuscam. Femina paulo pallidior, magisque atomosa, antennis setaceis, ut in variis hujus sectionis.

illunaria. 58. G. (The early Thorn) alis subdentato-retusis atomosis cinereo-rufescentibus, strigis tribus subæquidistantibus medio, fusco-rufis.
Geometra Illunaria. Hüb. Schmet. Geom. 7. 36. et 37.
Phalæna ustularia. Don. Br. Ins. 3. *tab.* 82? Forte diminuta.
HABITAT rarius apud nos, Imago f. Apr. Nemoribus.
EXPANSIO alarum 1 unc. 7 lin.
DESCRIPTIO. Facies præcedentis sed magis atomosa, strigâ primâ ut in illa: secundâ medio latiore communi, in qua costam versus lunula obsoletissima albicans. Striga tertia magis obliqua pone medium. Apex ipse retusus vix dentatus rufus, ciliis ustulatim maculatis. Cilia alia ustulata. Posticæ lunulâ in striga, fere obliteratâ. Femina simillima, sed forte saturatior, antennis setaceis.
OBS. I am not certain this is the Phalæna ustularia of Donovan, above cited, because his figure is much too small for it: but, as he gives it as a *vernal* species, and as most of his figures are either purposely a little diminished, or taken from small specimens, I suppose this may be the one he means. Otherwise I should not have hesitated in referring it to the next.
β. Longe minor et pallidior. Forte distincta.

G. The

G. (The July Thorn) alis erosis retusis cinereo-rufescentibus, strigis tribus obsoletis apiceque rufis. *juliaria.* 59.
Geometra Delunaria. Hüb. Schmet. Geom. 7. 34?
HABITAT frequens, Imago Jul. Sylvis.
EXPANSIO alarum 1 unc. 3-4 lin.
DESCRIPTIO. Præcedenti simillima, at duplo minor, minusque atomosa, costâ tincturâ rosei. Strigæ obsoletiores magisque inæquidistantes, secunda sæpe magis angulata. In tempore volendi potissimum differt.
β. Alis longe pallidioribus, nitidioribus. Forte distincta.

G. (The Lilac Beauty) pectinicornis alis sub-erosis griseo-flavescentibus, strigis repandis fuscis albisque. F. *Syringaria.* 60.
Geometra Syringaria. Hüb. Schmet. Geom. 6. 29.
Phalæna syringaria. Fab. Ent. Syst. 3. 136. 25.
Phalæna Geometra syringaria. Lin. Syst. Nat. 2. 860. 206.
HABITAT apud nos valde infrequens, i. Jul. Sylvis.
EXPANSIO alarum 1 unc. 6-7 lin.
DESCRIPTIO. Species pulcherrima. Alæ emarginato retusæ, plus minus luteo griseoque, costâ albâ, strigâ ante medium subabbreviatâ angulatâ, violaceâ; duabusque aliis communibus posticis, costam versus rectangulatis et magis approximatis quam ad marginem tenuiorem; harum antica brunnea, postica violacea cum brunneo subtus ejus angulum, et cum nigris punctis in alis posticis. Lunula violacea ante apicem. Posticæ rotundatæ eroso-dentatæ, magis griseæ, minus luteæ. Fœmina parum pallidior.

G. (The September Thorn) alis angulatis truncatis luteis, medio strigis duabus oblique rectis. *erosaria.* 61.
HABITAT rarius apud nos, Imago i. Sept. Tiliaceis.
EXPANSIO alarum 1 unc. 6 lin.
DESCRIPTIO. Thorax robustior quam in præcedentibus, antice fulvus postice luteus. Posticæ alæ angulatim dentatæ immaculatæ, vel subinde strigâ mediâ interdum geminatâ obsoletissimâ evanescente. Fœmina in nostris exemplaribus paulo saturatior.
β. Alis anticis in utroque sexu, apice retusis, nec rectè truncatis, strigis ad marginem tenuiorem valde approximatis. Forte propria species. Exemplaria pauca solum vidi.
Geometra Erosaria. Hüb. Schmet. Geom. 5. 25?

G. (The Canary-shouldered Thorn) alis erosis retusis fulvis fusco irroratis, strigis duabus subincurvis fuscis, thorace crasso sulphureo. *Alniaria.* 62.

Phalæna

Phalæna Geometra Alniaria. Lin. Faun. Suec. 1230. et ejus Mus. nec Donov. Brit. Ins.

HABITAT apud nos valde infrequens. Imago f. Aug. Tiliaceis. Communicavit ejus captor Gul. Skrimshire.

EXPANSIO alarum 1 unc. 6 lin.

DESCRIPTIO. Præcedente differt colore thoracis, atomisque fuscis alarum, strigisque ad marginem tenuiorem magis incurvatis. Posticæ minus atomosæ, strigâ in medio, obsoletâ fuscâ.

β. Alis omnibus in utroque sexu fere flavis fusco subirroratis; posticis macula media fusca. Forte propria species.

Geometra Tiliaria. Hüb. Schmet. Geom. 5. 23.

Phalæna Geometra. Canaria. Hüb. Beit. 2. 2. 4. 4. Y.

Tiliaria. 63. G. (The freckled August Thorn) alis erosis retusis griseo-albicantibus, brunneo valde atomosis, strigisque duabus brunneis.

Geometra Alniaria. Hüb. Schmet. Geom. 5. 26.

Phalæna Alniaria. Don. 8. *tab.* 275. *at non Linnæi, &c.*

OBS. Non est Ph. Tiliaria *Lin. Faun. Suec.* quæ forte est varietas G. Piniariæ.

HABITAT frequens Tiliaceis, Imago, Aug.

EXPANSIO alarum F. 1 unc. 7 lin.

DESCRIPTIO. Simillima præcedenti, at alia, thorace graciliori albido-griseo, alis longe pallidioribus, nervis plus minus brunneis, strigisque marginem tenuiorem versus minus incurvatis.

Quercinaria. 64. G. (The plain August Thorn) alis fulvis atomis evanescentibus strigisque duabus saturatioribus, posticis immaculatis, thorace gracili.

Geometra Quercinaria. Hüb. Schmet. Geom. 5. 24.

HABITAT apud nos infrequens. Imago Aug. cum præcedentibus.

EXPANSIO alarum 1 unc. 5 lin.

DESCRIPTIO. Ultimæ nimis affinis, staturâ minore, magis fulva, minus atomosa. A penultima notabile differt, thorace longissime graciliori fulvo, strigisque minus incurvatis ad marginem tenuiorem.

angularia. 65. G. (The clouded August Thorn) alis erosis retusis fulvis, fascia fusco-brunnea indeterminata ad strigam secundam externe adnata.

Geometra Angularia. Hüb. Schmet. Geom. 5. 22. nec Fabricii.

HABITAT frequens Tiliaceis, Imago Aug.

EXPANSIO alarum M. 1 unc. 5-6 lin.

DESCRIPTIO.

DESCRIPTIO. Præcedente solum differt in fusco colore pone strigam secundam in alis anticis, qui fasciam incompletam, vel indefinitam format. Fœminam non possideo.

G. (The flounced Thorn) alis erosis rectissime truncatis cinerascenti-fulvis, a striga secunda fuscis: posticis maris semifuscis, posticè fulvis. *Carpinaria.* 66.

Geometra fuscantaria. Prod. Lep. Brit. 22. 45.

HABITAT apud nos valde infrequens. Imago, Sept. Dumetis. Communicavit amicus Gul. Skrimshire.

EXPANSIO alarum M. 1 unc. 4 lin.

DESCRIPTIO. Præcedentibus minor, sed longe robustior, alis magis truncatis saturatioribus; posticis maris a basi ad medium fuscis, cæteroquin fulvis, fœminæ toto fuscis.

β. Major pallidior.

Geometra Carpinaria. Hüb. Schmet. Geom. 527.—*et Prod. Lep. Brit.*

G. (The scorched Wing) alis repando-subretusis rufescentibus strigis tenuissimis irregularibus confertis ustulatis, basi, maculaque anguli ani ustulato-purpurascentibus. *dolabraria.* 67.

Geometra Dolabraria. Hüb. Schmet. Geom. 8. 42.

Phalæna Geometra dolabraria. Lin. Syst. Nat. 2. 861. 207.

Phalæna dolabraria. Fab. Ent. Syst. 3. 138. 32.

HABITAT, Larva in quercu. Imago f. Jun. Dumetis, at infrequens.

EXPANSIO alarum 1 unc. 4 lin.

DESCRIPTIO. Lutescens vel rufescens, antennis, capite, anticâ parte thoracis, ano, costæque basi quasi ustulatis, sæpe tincturâ purpurei. Macula ad angulum, ani ustulata purpureo terminata; cilia rufa vel rufescentia, sed ad maculam purpurea. Posticæ alæ parum repandæ flavæ obsoletissime rufo-strigosæ, maculâ ad angulum ani ciliisque ut in anticis.

G. (The bordered Beauty) alis repandis rufescentibus lineolatim rufo-atomosis, strigis duabus puncto interjecto, fimbriaque fuscescentibus. *apiciaria.* 68.

Phalæna Apiciaria. Hüb. Schmet. Geom. 9. 47.

Phalæna vespertaria, Donov. Br. Ins. t. 233. 3. *exclusis synonymis.*

HABITAT in Cantio vix infrequens, Imago f. Jul. Dumetis.

EXPANSIO alarum 1 unc. 2-3 lin.

DESCRIPTIO. Striga prima alarum subrectangulata ante medium; secunda repanda communis absolute postica, et ab hac ad finem alæ saturatiores seu rufo-fuscescentes, atque lineolatim

neolaria fusco-atomosa. Posticæ similes sed absque striga prima.

β. Paulo major, alis rotundioribus fimbria fere obliterata. Varietas rarissima maris.

Obs. Mr. Donovan makes the Phalæna parallelaria synonymous with this species, but it is nevertheless very distinct, and has not yet, that we know of, been found in Britain. We believe it to be the true vespertaria of Linnæus and Fabricius.

advenaria. 69. G. (The little Thorn) alis omnibus subrepandis pallide cinereis, striga rectangulata ante, secundaque communi pone medium fuscis.

Geometra Advenaria. Hüb. Schmet. Geom. 9. 45.

Habitat apud Colney Hatch Wood, prope Londinum, sed valde infrequens. Imago m. Jun. Sylvis. Imprimis communicavit amicus D. Lindegren.

Expansio alarum 1 unc. 1-2 lin.

Descriptio. Paulo ante strigam secundam vix repandam, sæpe striga alia evanescens in alis anticis; et punctum ordinarium fuscum in medio posticarum. Apex anticarum gerit maculam sæpe, obsoletissimam albicantem.

dilectaria. 70. * † G. (The small Thorn.)

Geometra Dilectaria. Hüb. Schmet. Geom. 8. 38. 39?

Habitat in Anglia, rarissime.

Expansio alarum.

Obs. There is a small dark species of Thorn Moth, which I have seen english specimens of, and suppose the same as the above-cited figures. But I possess neither specimens of it, nor any satisfactory description. They are very distinct from all others.

amataria. 71. G. (The large Blood-vein) alis omnibus angulatim acutis cinerascentibus, striga præobliqua communi ciliisque rubro-purpureis.

Geometra Amataria. Hüb. Schmet. Geom. 10. 52.

Phalæna Geometra amataria. Lin. Faun. Suec. 1223.

Phalæna amataria. Fab. Ent. Syst. 3. 132. 19.

Habitat, Larva in quercu, Imago Jul. Peridumetis, sed infrequens.

Expansio alarum 1 unc. 4 lin.

Descriptio. Alæ atomoso-cinerascentes, anticæ puncto ordinario medio fusco evanescente, striga validâ subsanguineâ a medio marginis tenuioris oblique sed rectim ductâ per ipsum apicem, quæ etiam transit transversè per medium alarum

alarum posticarum. Pone hanc, striga alia longe gracilior fusca repanda itidem communis, quæ confluit cum priore in apice anticarum.

In exemplaribus præclaris, subinde striga obsoletissima incurva in alis anticis ante punctum ordinarium. Fœmina mare differt solum antennis setaceis.

G. (The small Blood-vein) alis omnibus angulatim acutis rufis, striga incurva ante, duabusque communibus pone medium fuscis. *imitaria.* 72.

Geometra Imitaria. Hüb. Schmet. Geom. 10. 51.—*Prod. Lep. Brit.* 22. 49.

HABITAT. Imago f. Jul. Dumetis vix infrequens.

EXPANSIO alarum 1 unc. 2 lin.

DESCRIPTIO. Tota rufa, strigâ anticarum incurvâ ante medium; tunc sæpe punctum ordinarium fuscum, costam versus; tunc vix pone medium striga secunda communis validior fere sub-repanda; sed ante punctum ordinarium in alis posticis: demum striga tertia communis tenuior fusca, magisque repanda: denique cilia omnia rufa. Mas a fœmina solum discrepat in antennis paululum pectinatis, nec setaceis.

7. VIRIDARIÆ. Alis integris vel parum angulatis, plus minus viridibus, luteisve, strigis duabus tribusve obscuris.

G. (The Swallow-tail) lutescens, alis angulatim acutis subsulphureis, strigis duabus, lineola interjecta, saturatioribus. *Sambucaria.* 73.

Geometra Sambucaria. Hüb. Schmet. Geom. 6. 28.

Phalæna Geometra Sambucaria. Lin. Faun. Suec. 1222.

Phalæna sambucaria. Fab. Ent. Syst. 3. 134. 19.

HABITAT. Larva in Sambuco. Imago i. Jul. Sepibus, vix frequens.

EXPANSIO alarum 2 unc. 3-5 lin.

DESCRIPTIO. Alæ anticæ ciliaque pallide sulphurea lineolis variis transversis sparsis saturatioribus evanescentibus; strigâ rectâ communi ante, alterâque simplici pone medium flavicantibus. Posticæ acutim caudiculatæ limbo solum lineolatæ, ciliis rufis, puncto magno nigro pupillâ rufâ, alteroque minore contiguo nigro, juxta caudiculam.

Antennæ in nostris exemplaribus itidemque in museo Linnæano, semper setaceæ, at validissimæ.

Cratægaria. 74. G. (The Brimstone) alis præsulphureis, maculis quatuor costalibus rufis.
Geometra Cratægaria. Hüb. Schmet. Geom. 6. 32.
Phalæna Geometra Cratægata. Lin. Faun. Suec. 1283.
Phalæna cratægata. Fab. Ent. Syst. 3. 178. 176.
HABITAT. Larva in Cratægo. Imago i. Ap.—i. Jun.—i. Aug. vulgaris, volatu vespertino, celeri impetu.
EXPANSIO alarum 1 unc. 4-6 lin.
DESCRIPTIO. Saturate sulphurea, antennis basi, ore, genubusque anticis rufis. Alæ anticæ sæpe fusco strigatim subnebulosæ, maculis costalibus rufis, primâ basi oblongâ, usque ad latera thoracis, secundâ minore ante medium, tertiâ majore in medio, cui adnata est lunula subargentea margine brunneo lunæ externe tridenticulato: quarta macula maxima subconiformis, extendit in apicem. Posticæ medio, strigâ unâ alterâve evanescente macularum subfuscarum. Antennæ maris paululum pectinatæ. Tibiæ omnes plus minus albæ.
OBS. This species would possibly have arranged better amongst the Thorn Moths, yet it wants their dentated wings, and habit.

Papilionaria. 75. G. (The large Emerald) perviridis antennis rufis, alis strigis duabus communibus subposticis punctorum albidorum.
Geometra Papilionaria. Hüb. Schmet. Geom. 2. 6.
Phalæna Geometra papilionaria. Lin. Faun. Suec. 1241.
Phalæna papilionaria. Fab. Ent. Syst. 3. 139. 39.
HABITAT valde infrequens apud nos. Imago f. Jul. Sylvis.
EXPANSIO alarum 2 unc. 3-5 lin.
DESCRIPTIO. Antennæ maris rachi alba radiis rufis brevibus. In exemplaribus præclaris subinde striga antica alarum exstat, et punctum medio ordinarium alis perviridibus paulo saturatiora evanescentia. Posticæ dentatæ.

volutaria. 76. G. (The small Emerald) alis omnino læte viridibus, striga sub-incurva ante, secundaque pone medium subcommuni albis.
Phalæna volutata. Fab. Ent. Syst. 3. 187. 211.
Phalæna Geometra volutata. Vill. Ent. 2. 373. 596.
Geometra Vernaria. Hüb. Schmet. Geom. 2. 7.
" *The small Emerald.*" *Harris's Exp. t.* 8. *f.* 8.
Phalæna lucidata. Donov. Brit. Ins. t. 97.

HABITAT.

HABITAT. Imago f. Jul. Dumosis cretaceis, at valde infrequens.
EXPANSIO alarum 1 unc. 3-4 lin.
DESCRIPTIO. Alæ posticæ paululum angulatæ.
OBS. Mr. Donovan, in the place above cited, has delineated this delicate and beautiful species, not only in the winged, but likewise in the larva, and pupa states; yet erroneously supposes it to be a nondescript, and an unfigured kind: as will appear on consulting the above synonyma: he adds, "Harris does not mention it in his catalogue of English "Moths, nor has a figure of it been given in any preceding "publications that have come under our inspection."

G. (The light Emerald) alis eroso-dentatis pallide viridibus, striga ante, alteraque communi pone medium, albis. *margaritaria.* 77.
Geometra Margaritaria. Hüb. Schmet. Geom. 3. 13.
Phalæna Geometra margaritaria. Lin. Syst. Nat. 5. 865. 231.
Phalæna margaritaria. Fab. Ent. Syst. 3. 131. 10.
HABITAT. Imago m. Jul. i. Aug. Dumetis, at infrequens.
EXPANSIO alarum 1 unc. 7-11 lin.
DESCRIPTIO. Striga prima alarum adnata est externe, et secunda interne, ad colorem saturatiorem. Apex anticarum subretusus gerit maculam parvam rufam. Cilia omnia alba, hinc, illinc tincturâ rufedinis.

G. (The grass Emerald) alis integris viridibus, strigis duabus viridissimis flexuosis, tertiaque obsoleta albicante. *prasinaria.* 78.
Phalæna prasinaria. Fab. Ent. Syst. 3. 151. 80.
Geometra Cythisaria. Hüb. Schmet. Geom. 1. 2.
HABITAT Imago. i. Jul. Compascuis satis frequens.
EXPANSIO alarum 1 unc. 5-6 lin.
DESCRIPTIO. Alæ nisi in præclaris exemplaribus cinerascenti-virides, strigis duabus medio, puncto ordinario interjecto, viridissimis; secundâ communi. Versus marginem posticum striga alia communis albicans evanescens.

G. (The blotch'd Emerald) alis omnibus integris viridissimis, macula anguli ani rufo-alba, sesquialtera marginis tenuioris. *ditaria.* 79.
Phalæna ditaria. Fab. Ent. Syst. 3. 152. 82.
Geometra Bajularia. Hüb. Schmet. 1. 3.
HABITAT. Imago i. Jul. Sylvis Londinensibus, at infrequens.
EXPANSIO alarum 1 unc. 2-3 lin.
DESCRIPTIO. Cilia albida brunneo maculata, striga fusca undulata in ipso margine posticarum.

G. (The

Thymiaria. 80. G. (The common Emerald) alis angulatis saturatissime viridibus, striga flexuosa ante, alteraque communi, pone medium albicantibus.

Phalæna Geometra Thymiaria. Lin. Syst. Nat. 2. 859. 109.
Phalæna thymiaria. Fab. Ent. Syst. 3. 130. 5.
Geometra Æstivaria. Hüb. Schmet. Geom. 2. 9.
Phalæna Vernaria. Donov. Br. Ins. nec aliorum: exclusis synonymis omnibus, quæ ad vernariam veram pertinent.

Habitat. Imago f. Jun. Sylvis frequens.

Expansio alarum 1 unc.—1 unc.—2 lin.

Descriptio. Posticæ alæ angulatæ puncto ordinario obsoletissimo medio saturatiore, ciliis omnibus albis fusco valde maculatis. In Norfolcia variat major, cum multis aliis.

Obs. This is too closely allied to G. Bupleuraria of Hübner, a paler species; which my tutor in entomology thinks he has formerly seen alive in England, but conceived it to be a faded specimen only of G. Thymiaria.

vernaria. 81. G. (The small grass Emerald) alis integris viridissimis, striga obsoletissima ante, alteraque pone medium communi albicantibus, ciliis viridi-rufescentibus.

Phalæna Geometra Vernaria. Lin. Faun. Suec. 1227.
Phalæna vernaria. Fab. Ent. Syst. 3. 129. 3.
Geometra viridaria. Hüb. Schmet. Geom. 2. 11.

Habitat Imago f. Mai. Pratis collinis, prope Peckham, at valde infrequens.

Expansio alarum 10-11 lin.

Obs. Several of the Synonyma of this insect, in the works of Linnæus, Fabricius, &c. do not belong to the species here intended; which, for the last thirty years, has not been caught in England that we know of; but prior to that period was frequently found in meadows near the Oak of Honor Wood, at Peckham.

putataria. 82. G. (The little Emerald) alis angulatis dilute viridibus, medio strigis duabus obsoletis communibus albicantibus.

Geometra Putatoria. Hüb. Schmet. Geom. 2. 10.
Phalæna Geometra putatoria. Lin. Faun. Suec. 1225.
Phalæna putataria. Fab. Ent. Syst. 3. 131. 8.
Geometra lactearia? Prod. Lep. Brit. 21. 30; at non lactearia. Lin.; vel ejus Mus.

Habitat, Imago f. Mai. Sylvaticis frequentissime.

Expansio alarum 10-11 lin.

Descriptio. In exemplaribus præclaris, nuper captis, alæ dilute læteque virides et tenerrimæ, sed in antiquis plerumque plus minus albæ, strigâ primâ vix communi parum incurva

curva fere absque undulatione ante, secundâ undulatâ pone medium. Posticæ angulatæ. Cilia omnia virescentia.

Obs. The finest specimens of G. Putataria, and some other species of this section, soon lose their colours by keeping; some fade to a dirty yellow, but the present one becomes entirely of a delicate white.

8. FASCIARIÆ. Alis fasciâ medio alarum anticarum solidâ, vel subinde quasi in duas divisâ.

G. (The barred Red) alis rufis fascia media saturatiore strigæ albidæ utraque adnata. *fasciaria.* 83.

Geometra Fasciaria. Hüb. Schmet. Geom. 1. 5.
Phalæna Geometra fasciaria. Lin. Faun. Suec. 1242.
Phalæna Geometra prosapiaria. Lin. Faun. Suec. 1252.
Phalæna fasciaria. Fab. Ent. Syst. 3. 157. 100.

Habitat apud nos valde infrequens. Apud Westerham in Cantio, mares olim cepi volantes: m. Jun. Pinetis. Prope Wisbeach Gul. Skrimshire. Prope Nordovicum, J. Hooker, Jun.

Expansio alarum 1 unc. 5-7 lin.

Descriptio. Tota rufa, strigâ primâ ante, alterâque pone medium communi albicantibus, et inter has colore saturatiore. Fœmina discrepat, staturâ majore strigisque fuscescentibus obscuris nec albidis, absque colore saturatiore interjecto, antennisque setaceis.

Obs. Geometra fasciaria is very closely allied to the species of the last section: and indeed differs from some of them in nothing but colour.

G. (The fork Striped) alis rufescentibus, striga lata rufa marginem crassiorem versus bifida. *bifidaria.* 84.

Habitat in Anglia rarissime. In Musæo D. Swainson.

Descriptio. Valde affinis G. pennariæ, at distincta. Alæ posticæ rufescentes, puncto medio fuscescente.

Obs. The above description was taken from a specimen in Mr. Swainson's collection several years since.

G. (The barred Umber) alis omnibus rufis, crebre pulverulentibus, fascia medio anticarum dolabriformi brunneo-rufa. *pulveraria.* 85.

Geometra Pulveraria. Hüb. Schmet. Geom. 39. 203.
Phalæna Geometra pulveraria. Lin Faun. Suec. 1243.
Phalæna pulveraria. Fab. Ent. Syst. 3. 157. 99.

Habitat,

Habitat, rarius apud nos, Imago i. Jun. Sylvis.
Expansio alarum 1 unc. 5 lin.
Descriptio, rufa vel rufescens, antennis maris radiis mediocribus, oculis nigris; fasciâ anticarum, forte paululum pone medium, latâ densâ, externe marginem tenuiorum versus valde attenuatâ, sive costam versus lobo unico magno sæpe retuso. Posticæ lineolâ obliquâ inconspicuâ subustulatâ anguli ani.
β. Fasciâ anticarum longe latiore, tamen inhabiliter dolabriformi.

clavaria. 86. G. (The Mallow Moth) alis acutis griseo rufescentibus fasciis duabus subfuscis albo-terminatis, strigaque postica alba undulatissima.
Geometra clavaria. Marsh. M. S.
Geometra clavaria. Prod. Lep. Brit. 22. 51.
Geometra Cervinata. Hüb. Schmet. Geom. 62. 318.
Habitat, Imago Malvaceis, m. Oct. prope Londinum, rarius.
Expansio alarum 1 unc. 8-9. lin.
Descriptio. Fascia prima anticarum angusta brunneo-fusca fere ad basin, albo extus marginata; secunda paulo undulata latior, in medio, et utraque albo marginata. Inter hanc et marginem posticum, at marginem potius versus, striga undulatissima alba, quæ in fœmina sæpe evanescit: pone strigam alæ saturatiores ciliis fuscis, perfusco maculatis; et sæpius in ipso margine ciliari strigâ communi albicante. Posticæ parum repandæ pallide fufescentes, strigâ saturatiore pone medium. Antennæ maris albidæ radiis brevibus rufescentibus.

conversaria. 87. * † G. (The large Carpet) alis griseis, fusco atomosis, fascia lata communi nigricante extus obtuse biangulata.
Geometra Conversaria. Hüb. Schmet. Geom. 62. 321.
Habitat in Anglia rarissime. In Musæis duobus solum vidi. Imago Aug. apud Wapley Wood, Devonia. Dom. Leach.
Expansio alarum
Descriptio. Statura et magnitudo G. repandariæ. Alæ fasciâ extus bilobatâ communi, medio anticarum, sed obliqua, tamen antica est in posticis, et parum repanda; in omnibus costam vix attingit. Margo omnis posticus rufescit, et adnatus interne ad strigam communem flexuosam seu repandam albicantem. Antennæ maris fuscæ satis pectinatæ, fœminæ setaceæ.

Chenopodaria. 88. G. (The small Mallow) alis acutis fulvo vel rufo fuscescentibus,

bus, strigis, fasciaque composita medio, lineolaque obliqua apicis, saturatioribus.

Phalæna Geometra Chenopodiata. Lin. Faun. Suec. 1263.

Phalæna chenopodiata. Fab. Ent. Syst. 3. 191. 227.

HABITAT vix frequens apud nos, at longe frequentior in Norfolcia. Imago, f. Jun. f. Aug. Dumetis.

EXPANSIO alarum, 1. unc. 4-5. lin.

DESCRIPTIO penultimæ affinis, at duplo minor. Alæ anticæ fulvo vel plumbeo-fuscescentes, strigis variis obsoletis undulatis ante medium: tunc fascia lata repanda medio, insolida sive ex fasciolis strigisque fuscis subfuscisve composita: tunc in postica parte strigis aliis obsoletis saturatioribus quam alis. Posticæ maris semifuscescentes, limbo fusco-cinereo strigis duabus tribusve saturatioribus, fœminæ longe pallidiores, at similes. Maris antennæ pectinatæ.

β. Alis paulo pallidioribus, fascia composita minus repanda.

Geometra Mensuraria. Hüb. Schmet. Geom. 37. 193.

γ. Alis minus acutis, seu magis ad apicem rotundatis, saturatioribus sive plumbeo-fuscis, fasciâ vix ullo modo repandâ; posticis omnino fuscis, strigâ posticâ, subinde geminatâ perfuscâ.

G. (The chalk Carpet) alis albido cinerascentibus fascia utrique crenata insolida subfusca medio, in qua punctum geminatum atrum. *bipunctaria.* 89.

Phalæna bipunctaria. Fab. Ent. Syst. 3. 145. 58.

Geometra bipunctata, Hüb. Schmet. Noct. 53. 276.

HABITAT, Imago m. Jul. Cætaceis Sylvaticis, at rarius.

EXPANSIO alarum 1. unc. 4-5. lin.

DESCRIPTIO, alæ strigis duabus tribusve ante medium saturatioribus: tunc fascia obliqua medio insolida, vel quasi ex fasciis duabus composita, in qua costam versus puncta duo contigua atra. Inter fasciam et marginem posticum sæpe striga transversa macularum fuscarum extus albarum, et pone hanc striga alia punctulorum atrorum; sed hæc in fœmina evanescent. Posticæ fusco cinerascentes, strigis omnibus fere omnino obliteratis.

G. (The silver Ground) alis albidis, fasciis duabus nigricantibus intricatis. Vil. *implicaria.* 90.

Phalæna Geometra Implicata. Villars. Ent. 2. 386. 643. *cum icone.*

Geometra montanata. Hüb. Schmet. Geom. 48. 248.

HABITAT, Imago Sylvaticis, Jun. copiose.

EXPANSIO alarum 1 unc. 4-5. lin.

DESCRIPTIO.

Descriptio. Formosa species, alis anticis albis vel albidis, fasciâ parvâ incurvâ basi, alterâque medio, latâ 2-3 angulatâ sæpe insolidâ fuscâ vel fusco-fulvâ, in qua sæpe macula una alterave nigra: Posticæ albæ plus minus fusco strigatæ. Mas subinde habet strigam obsoletam undulatam albidiorem communem juxta marginem posticum alarum. Fœminæ alæ magis albæ.

β. Fasciâ medio, angustiore, et interruptâ. Varietas Maris, ex Gul. Skrimshire.

olivaria. 91. G. (The Beech Green-carpet) alis olivaceo-viridi alboque variis, fascia basi, aliaque medio insolida saturatioribus albo marginatis.

Geometra Olivata. Hüb. Schmet. Geom. 59. 307.

Geometra albo-viridata. Marsh. M. S.—et Prod. Lep. Brit. 26. 32. *Fœm.*

Geometra albo-viridaria. Prod. Lep. Brit. 23. 60. *Mas.*

Habitat. Imago Betuletis in Cantio, f. Aug. at valde infrequens.

Expansio alarum 1 unc.—1 unc.-1 lin.

Descriptio. Alæ anticæ fasciâ basi extus subrectâ sordide viridi: secundâ latiore medio, utraque crenatâ insolidâ strigatâ, ad marginem tenuiorem valde attenuatâ, et punctum nigrum ordinarium includente costam versus: pone fasciam strigâ sive rivulâ albâ, valde et irregulariter undatâ: tunc margine postico late læte viridi, et notato ordine punctorum nigrorum extus alborum. Margo ciliaris omnis punctis atris et maculis nigris. Posticæ fuscescentes, vix strigatæ.

viridaria. 92. G. (The green Carpet) alis læte viridibus, fasciis duabus viridibus saturatioribus, maculisque quinque marginalibus atris.

Phalæna viridaria. Fab. Ent. Syst. 3. 152. 83.

Geometra Miata. Hüb. Schmet. Geom. 57. 292. *nec Lin. &c.*

Geometra pectinitaria. Marsh. M. S.—et Prod. Lep. Brit. 23. 61.

Habitat. Imago f. Jun. Sylvaticis frequens.

Expansio alarum 1 unc.—1 lin.

Descriptio. Fascia prima basi, secunda fere exacte ut in præcedente at solida. Juxta marginem posticum striga alba undulata evanescens, margine ciliari ut in priore. Maculæ quinque atræ, tres costales, prima basi subgeminata; secunda in antico, tertia in postico angulo fasciæ medio costæ: quarta macula obliqua est in margine postico juxta apicem; et quinta in fundo fasciæ medio marginis tenuioris. Præterea, costa primarum gerit puncta alia minora atra. Posticæ fere ut in ultima.

G. (The

G. (The Winter Moth) alis cinereo-fuscis, fascia medio sæpe insolida saturatiore femina: incompleta. *brumaria.* 93.
Geometra Brumaria. Hüb. Schmet. Geom. 37. 191.
Phalæna Geometra brumata. Lin. Faun. Suec. 1293.
Phalæna brumata. Fab. Ent. Syst. 3. 190. 223.
HABITAT apud nos vulgaris, Hortis, Imago f. Nov.—Jan.
EXPANSIO alarum M. 1 unc.
DESCRIPTIO. Imago valde variat.
α. Alis omnibus cinerascentibus, fascia saturatiore medio anticarum subinde solida, interdum quasi ex strigis composita posticis striga medio, fusca evanescente, punctisque ciliaribus fuscis.
β. Alis fasciaque saturatioribus quam in α.
γ. Alis omnino fuscis, absque fascia striga vel puncto.
δ. Alis ut in α, at fascia potius ex strigis duabus distantibus composita, puncto fusco interjecto: posticis striga postica, medio, intus denticulata fusca.
Forte distincta species.
OBS. I received this strong variety from Captain Lindegren, who has frequently assured me, that he considered it as a distinct species.
OBS. 2. Femina hujus speciei mare convenit, exceptis antennis setaceis, et alis incompletis tantum bilinearibus.

G. (The early Moth) alis anticis fuscis, fascia lata medio saturatiore, punctum magnum ordinarium fuscum includente. *primaria.* 94.
Geometra primaria. Marsh. M. S.—et Prod. Lep. Brit. 23. 63.
Geometra Rupicapraria. Hüb. Schmet. Geom. 42. 222.
HABITAT vix frequens apud nos. Imago f. Jan. vel f. Feb. Sepibus.
EXPANSIO alarum M. 1 unc. 1 lin.
DESCRIPTIO. Fascia medio anticarum utraque terminata colore saturatiore, subcrenata, atque ad marginem tenuiorem attenuata. Posticæ albidæ puncto medio ordinario ante strigam saturatiorem evanescentem; punctisque marginalibus fuscis. Fœmina mare discrepat ut in præcedente.

G. (The Incomplete) alis incompletis cinereo-rufis, fascia communi, margineque ipso postico fuscis. *incompletaria.* 95.
HABITAT in Sylvaticis. Imago f. Dec. Truncis, at rarissime. Fœminam unicam ex amico D. Hatchett solum vidi.
EXPANSIO alarum incompletarum 2 lin.
DESCRIPTIO. Ultimæ certe affinis at alia. Duplo major, rufescens, antennis diversis, pone medium annulis fuscis albisque.

albisque. Abdomen subrufum nebulis saturatioribus, segmentorum marginibus lente, pallido ciliatis. Alæ anticæ subrufæ, strigâ seu fasciâ angustâ mediâ, margineque ipso postico fuscis; ciliis grossis longis rufis. Posticæ cinereo-rufescentes fasciâ validâ nigrâ fere ad basin, costam non attingente, strigâ ipsius marginis, ciliisque ut in anticis. Pedes aliquot elongati cinerei, nigro plus minus annulati.

apteraria. 96. G. (The Apterous) aptera depressa, levis orbiculato-ovata, cinereo-fusca; ano fasciculo pilorum porrectorum.
Phalæna Tinea Lichenella. Lin. Faun. Suec. 1451.
Habitat in Tilia. Imago f. Dec. Truncis, at rarissime. Marem nondum vidi.
Obs. Magnitudo et forma Cimicis lectuariæ. A præcedentibus valde distincta, tota aptera et in formâ; sequenti satis discrepat.

Æscularia. 97. G (The March moth) alis cinereis longiusculis, fascia medio, extus dentata saturatiore, lineolaque apicis obliqua fusca: fœmina aptera.
Geometra Æscularia. Hüb. Schmet. Geom. 36. 189.
Geometra cineraria. Marsh. M. S.—et Prod. Lep. Brit. 23. 64.
Habitat vix frequens, Imago m. Mart. Septis.
Expansio alarum 1 unc. 4 lin.
Descriptio. Præcedenti affinis, sed differt longitudine alarum, et in fascia extus denticulata costam versus unangulata, lineolaque ex angulo fasciæ ad apicem ducta. In cæteris convenit: sed fœmina omnino aptera est, et breviter fusiformis; nec linearis incompletis alis.

multistrigaria. 98. G. (The mottled Grey) alis cinerascentibus, strigis fasciolisque numerosis saturatioribus, lente quasi ex punctis nebulisque compositis.
Habitat valde infrequens apud nos, at frequentior in Norfolcia. Imago Mart. Ericetis. Communicavit ejus captor Rev. J. Burrell.
Expansio alarum 1 unc. 2-4 lin.
Descriptio. Margo ipse posticus ordine concinno et communi punctorum geminatorum atrorum. Posticæ albidæ strigis duabus saturatioribus evanescentibus pone medium.
Fœmina mari simillima, antennis setaceis, quæ in mare minute pectinatæ sunt.

didymaria. 99. G. (The Twin-spot Carpet) alis cinereis nebulosis, fasciis strigisque

gisque interruptis fuscis albisque, macula didyma postica fusca.

Phalæna Geometra didymata. Lin. Faun. Suec. 1270.

Geometra Scabrata. Hüb. Schmet. Geom. 44. 229?

HABITAT, Imago f. Jul. in Scotia, et Com. Ebor. atque in Norfolcia frequens: sed prope Londinum nondum inventa est.

EXPANSIO alarum 1 unc. 1 lin.

DESCRIPTIO. Affinis præcedenti. Alæ antice nebulosæ, fasciis seu strigis brunneis, fuscis, albisque, plus minus interruptis; et in medio postici partis anticarum, macula cæteris magis conspicua, brunneo-fusca didyma, sive extus obtuse bilobata. Posticæ, cum ciliis omnibus venustis, fere ut in ultima, sed in mare saturatiores. Fœmina mare longe pallidior, minus fusca.

OBS. I do not hear of this species occurring nearer London than Westerham, in Kent, where I have frequently found it.

G. (The large Twin-spot) alis subfuscis rufisve, fascia parva basi, aliaque medio unangulata nigra subcomposita, macula didyma sesquialtera postica fusca. *quadrifasciaria.* 100.

HABITAT apud nos valde infrequens, in Norfolcia frequentior, Imago *f.* Jul.

EXPANSIO alarum 1 unc. 2 lin.

DESCRIPTIO. Imagines valde variant.

α. Alis fuscescentibus, tinctura fulvi, fasciâ fere solidâ atrâ obliquâ medio alæ, antrorsum parum incurvâ, externe alte unangulatâ, medio costam versus puncto atro: inter fasciam et marginem subinde striga evanescens albicans, in qua parva macula didyma præcedentis extat, at longe obsoletior, et juxta hanc maculam in ipso margine postico, macula alia rhombea fusca, quæ huic speciei peculiaris est.

Phalæna Geometra quadrifasciaria. Lin. Faun. Suec. 1253.—*Villars. Ent.* 2. 315. 446.

Geometra Ligustrata. Hüb. Schmet. Geom. 55. 282.

β. Alis rufescentibus, fascia medio quasi ex strigis atris composita puncto ordinario medio atro costam versus, absque strigâ posticâ albicante.

γ. Fascia medio, valde insolida, præcipue costam versus, puncto conspicuo ordinario atro: cæteris ut in *α.*

δ. Fascia minus angulata, absolute insolida, composita; ex fasciis duabus strigatim compositis distantibus unde primo intuitu præcedentibus valde discrepat. Cæteris ut in *α.* Mera varietas.

Phalæna

Phalæna Geometra Undulataria. Villars. Ent. 2. 322. 464. cum icone, et Prod. Lep. Brit. Addenda 4. Geom. 4.

unidentaria. 101. G. (The dark-barr'd Twin-spot) alis rufo-ochraceis, fascia parva basi, aliaque medio lata invenustè dolabriformi punctoque postico didymo nigris,

Geometra Quadrifasciaria. Hüb. Schmet. Geom. 55. 284.—nec Lin. &c.

HABITAT vix frequens, Imago i. Jun.—i. Aug. Peridumetis; et Ulmosis.

EXPANSIO alarum 1 unc. 1 lin.

DESCRIPTIO. Fascia obliqua medio anticarum, atra, externe fere biloba, et ad marginem tenuiorem attenuata. Posticæ fuscæ cinereo undulatim strigosæ seu anguste fasciatæ.

β. Alis anticis minus ochraceis, fascia medio anticarum vix biloba: posticis magis nigredine suffusis.

γ. Pulchrior, fascia medio, anticarum unilobata; posticis fuscis limbo latissime cinereo. Forte propria species.

ferrugaria. 102. G. (The red Twin-spot) alis cinereis fascia parva basi, aliaque lata repanda medio rufescentibus; punctoque postico didymo fusco.

Geometra Ferrugata. Hüb. Schmet. Geom. 55. 285.

Phalæna Geometra ferrugata. Lin. Faun. Suec. 1292.

Phalæna ferrugata. Fab. Ent. Syst. 3. 196. 242.

HABITAT, frequens, Imago Sæpibus f. Mai.

EXPANSIO alarum 1 unc.—1 unc.—1 lin.

DESCRIPTIO. Maxime variat, et persimilis præcedenti, tamen distincta.

α. Fascia medio anticarum fere solida, vel strigis paucis vix conspicuis.

β. Fascia parva basi, aliaque medio anticarum lata invenustè dolabriformi, absolute solidis sordide rufis.

γ. Fascia medio anticarum solida rufa subundulata, nec invenustè dolabriformi.

HABITAT in Com. Ebor. Sepibus Cratægi Oxyacanthæ. Præcedentibus varietatibus paulo minor.

δ. Fascia medio anticarum insolida sive pallida, antice fere disjuncta, et quasi in duas divisa.

ε. Alis anticis cinereo rufescentibus, strigis duabus validis anticis, fasciaque undulata angusta fere pone medium, rufo fusca, et pone punctum ordinarium fuscum.

Mera varietas; at characteres primo intuitu valde discrepant.

OBS. The three preceding species, although sufficiently distinct, are very variable ones; and, in their numerous variations,

tions, frequently so approach each other, that it is an adept only, in our intricate science, that finds no difficulty in assigning to each variety its proper station. They may, nevertheless, be easily separated, by any one tolerably skilled in Entomology, from the descriptions above given, and by the observations which now follow.—The first species is somewhat the largest, and has the most bold, and deepest-angled bar, in the middle of the upper wing: and possesses, along with the remarkable twin-spot of didymata, another rhomboidal brown one, contiguous, attached to the posterior margin, near the apex; faint it is true, and even unfigured by Hübner, yet always present, and altogether wanting in the following species; which is readily distinguished from the first by its rather smaller size, and by its blunt-angled, central fascia: and from the last (G. ferrugaria) by the colour of the fascia being brown, not rufous. G ferrugaria, moreover, is not only to be distinguished by its fascia being rufous, but by its central one being less attenuated towards the interior margin of the upper wing, than in quadrifasciaria, or unidentaria.

G. (The striped Twin-spot) alis cinereo-fuscescentibus, strigis variis undulatis saturatioribus dilutioribusque: puncto postico bilobo fusco duobusque costalibus rhombeis contiguis sordide rufis. *Salicaria*, 103.

Geometra Salicata. Hub. Schmet. Geom. 53. 273?

HABITAT apud nos valde infrequens, cum præcedentibus.

EXPANSIO alarum 1 unc.

DESCRIPTIO. Simillima ultimæ varietati præcedentis, et forte indistincta; at alæ anticæ obsolete strigatæ, nec fasciatæ; maculâ didymâ seu potius bilobâ, ut in præcedentibus quatuor; maculis etiam duabus costalibus contiguis sordide fere fusco-rufis juxta apicem. Posticæ ut in ultimis.

9. PURPURARIÆ. Alis integris absque angulis, purpureo plus minus fasciatis.

vibicaria. 104. * †

G. (The purple-ribband Wave) Wings yellowish; with three purple streaks; the first the most obscure.

INHABITS Europe. Britain.

FOUND in woods; in each wing there is a purple transverse dot, a purplish fascia, on the foreside of which the colour is deepest; a streak, and the whole margin purplish, as are all the wings on the other side. *Elements of Natural History*, 2. 165.

OBS. The above is inserted on the sole authority of, and extracted from the work just cited. It agrees well with the true Phalæna vibicaria of Linnæus.

purpuraria. 105. * †

G. (The purple-barr'd Yellow) Wings yellowish; the margin and two fasciæ on the primary wings purple.

INHABITS Europe. Britain.

THE Caterpillar feeds on the oak and black thorn; it is green; the back brown, with a pale line; the Moth is amongst the smallest of this section. (Section C with rounded wings.) *Elements of Natural History*. 2. 167.

OBS. The above description is also inserted from, and on the sole authority of the work just cited. It agrees sufficiently well with the Phalæna purpuraria of Linnæus and other authors.

auroraria. 106. *

G. (The purple bordered Gold) alis saturate aureis, costa, fascia obliqua antica, secundaque juxta marginem posticum obliquis purpureis.

Geometra Auroraria. Hüb. Schmet. Geom. 12. 63.

HABITAT in Com. Norf.

Communicavit ejus captor, amicus, Dom. Gul. J. Hooker.

EXPANSIO alarum

DESCRIPTIO. Posticæ alæ purpureæ, maculâ medio aureâ. Cilia omnia etiam saturate aurea.

OBS. Although this rare species approaches very near to the true purpuraria of Linnæus, it nevertheless appears to be sufficiently distinct.

10. ANNU-

10. ANNULARIÆ. Alis annulo medio, qui in ultimis duabus speciebus evanescit.

G. (The large Mocha) alis omnibus albidis atomis numerosis fuscis, striga dentata, annuloque medio nigris, ordineque punctorum nigrorum marginali. *serotinaria.* 107. *
Geometra Serotinaria. Hüb. Schmet. Geom. 28. 147? †
HABITAT in Anglia rarissime. In Musæo D. Honey.
DESCRIPTIO. Statura exacte sequentis, at major. Antennæ setaceæ; forte fœmina.
OBS. I took the above description of this insect several years since, and had named it G. annulata, till the arrival of the above-cited figure, which probably belongs to it.

G. (The Birch Mocha) alis omnibus cano-albis, strigis duabus communibus punctorum nigrorum, annulo conspicuo purpureo interjecto, singulâ alâ. *pendularia.* 108.
Geometra Pendularia. Hüb. Schmet. Geom. 13. 66.
Phalæna Geometra pendularia. Lin. Faun. Suec. 1244.
Phalæna pendularia. Fab. Supp. 451. 63-4.
HABITAT, Larva in Betula, Imago f. Mai.—f. Aug. Sylvaticis betulosis frequens, apud Coomb Wood. Alibi longe rarior.
EXPANSIO alarum 1 unc. 1 lin.
DESCRIPTIO. Striga prima anticarum paulo incurva ante medium, secunda etiam curva sive repanda postica: et pone hanc, sæpe nebula una alterave fusca. Margo ipse posticus striga alia communi punctulorum nigrorum, ciliis albis.
β. Fasciola purpurea, vel subfusca in omnibus alis, ab annulo ad marginem tenuiorem ducta.
Phalæna circularia. Fab. Supp. 451. 64-5.

G. (The dingy Mocha) alis omnibus fusco-cinereis, annulo medio purpureo, strigaque subrepanda postica communi punctorum nigrorum. *orbicularia.* 109.
Geometra Orbicularia. Hüb. Schmet. Geom. 13. 65.
HABITAT apud nos infrequentissime. Exemplarium unicum prope Londinum captum solum vidi.
EXPANSIO alarum 1 unc. 1 lin.
DESCRIPTIO. Nimis affinis G. Pendulariæ, at longe saturatior, inelegantior, et rarior. annulo purpurascente vix conspicuo

spicuo medio alæ subtus costam. Puncta in striga postica posticarum alarum pene confluentia, et inde strigam subdenticulatam efficiunt. Margo ipse posticus punctatus ut in prioribus.

omicronaria. 110. G. (The Mocha) alis omnibus ochraceo-albis, striga repanda ante, alteraque latior perdentata pone medium communibus, annulo conspicuo interjecto nigris.

Geometra Omicronaria. Hüb. Schmet. Geom. 13. 65.

HABITAT in Cantio frequens. Imago, f. Mai, f. Aug. Sylvaticis.

EXPANSIO alarum 1 unc.

DESCRIPTIO. Species elegans strigâ primâ anticarum alarum concinnâ valde repandâ; secundâ posticâ argute, alte, et irregulariter dentatâ, at minus repandâ et interne, fusco parum auctâ. Pone hanc strigâ latiusculâ, communi obscurâ, ordineque communi marginali punctulorum nigrorum ut in præcedentibus.

β. Strigâ secundâ anticarum alarum perdentatâ, interne ita auctâ fuscedine, ut fascia absoluta evadit.

Phalæna annularia. Fab. Ent. Syst. 3. 147. 64.

ocellaria. 111. G. (The false Mocha) alis omnibus rufescentibus nigro minutissime atomosis, fasciola medio communi saturatiore, in qua ocellus niveus, iride fusca.

Geometra Punctaria. Hüb. Schmet. Geom. 13. 67?—*nec Linnæi, &c.*

Geometra Hübneraria. Prod. Lep. Brit. 24. 75.

HABITAT, Imago frequens f. Mai.—f. Aug. Sylvaticis.

EXPANSIO alarum 1 unc.—1 unc. 1 lin.

DESCRIPTIO. Affinis præcedentibus, cum annulo, strigisque omnibus punctorum, at longe obsoletiorum.

β. Nebulis paucis fuscescentibus omnibus alis prope marginem posticum in ordine.

Geometra Ocellaria. Hüb. Schmet. Geom. 13. 64.

HABITAT, cum α, at infrequentior.

punctaria. 112. G. (The Maiden's Blush) alis omnibus rufescentibus atomis paucis minutissimis nigris, fasciolaque medio communi rufa, in qua in posticis punctum albissimum.

HABITAT apud nos frequens, Imago f. Mai.—i. Aug. Sylvaticis.

EXPANSIO alarum 1 unc.—1 unc. 2 lin.

DESCRIPTIO. Imagines valde variant, at alæ posticæ sæpius paululum angulatæ sunt.

α. Præcedenti adeo similis, ut vix differt nisi in absentia, ocelli

ocelli nivei iride fusca, anticarum alarum; et in puncto albissimo posticarum minus conspicuo quam in illa. Alæ anticæ strigâ communi anticâ incurvâ punctorum fuscorum; tunc fascia angusta communis media brunnea, in qua in posticis punctum albissimum: inter hanc et marginem posticum striga alia communis punctorum fuscorum: et denique in ipso margine postico striga tertia communis punctorum oblongorum fuscorum.

OBS. This can hardly be the punctaria of Hübner, because he depicts a white ocellus with a brown iris in each wing, quite as strong as in the preceding species; which, therefore, in all probability, his figure is intended for.

β. Maculis paucis subfuscis prope marginem posticum alarum anticarum in ordine: puncto albissimo posticarum fere omnino obliterato.

γ. Alis minus rufis seu pallidioribus, fere absque strigis punctorum; et absque puncto albissimo posticarum.

Phalæna Geometra punctaria. Lin. Faun. Suec. 1250.
Phalæna punctaria. Fab. Ent. Syst. 3. 132. 11.
Phalæna communifasciata. Donov. 13. 456.

OBS. This seems to be the true punctaria of Linnæus, and agrees well with his definition: but, from its being much rarer than α, it has been judged best to make it the third, instead of the first of the varieties of that species: as the most usual or customary state of a variable insect, is its true state; and its less frequent ones, of course, are its variations.

δ. Prioribus varietatibus minor, et volat tantum in autumno: caret omnino punctum albissimum posticarum alarum; et gerit, utroque sexu, juxta marginem posticum ordinem communem macularum fuscarum: cæteris α convenit. Forte propria species.

G. (The scarce Angled) alis angulatis rufescentibus, striga subrepanda fusca, alteraque punctorum fuscorum; posticis striga angulata fusca. *subangularia.* 113.

HABITAT, rarissime in Anglia. In Musæo D. Tinby.

EXPANSIO alarum

DESCRIPTIO. Nimis affinis G. punctariæ, sed alis strigisque magis angulatis.

OBS. This description was made some years since from the cabinet of the late Mr. Tinby, a strenuous collector of British Lepidoptera: and I have not seen it since. Its antennæ were setaceous, but I have forgot of what sex it was: and from its close affinity to G. punctaria, (of which it may only

prove a variety) have thought the present, its most proper station.

linearia. 114. G. (The clay Triple-line) alis rufis strigis tribus communibus fuscis.

Geometra Linearia. Hüb. Schmet. 13. 69.

HABITAT, valde infrequens apud nos. Imago in Cantio Sylvaticis.

EXPANSIO alarum 1 unc. 2 lin.

DESCRIPTIO. Striga prima alarum ante medium curva, gracilissima et paululum undulata: secunda longissime validior et ferè fasciæformis, longe pone medium sine undulatione: tertia inter ultimam et marginem posticum, primæ similis, gracilissima, at undulatissima, et quasi ex punctulis minutissimis confluentibus composita. Cæteris cum G. punctaria convenit, at striga secunda magis postica est.

pullaria. 115. G. (The brown Annulet) alis omnibus cinereis striga denticulata ante, alteraque communi pone medium, annulo interjecto saturatioribus.

Geometra Pullaria. Hüb. Schmet. Geom. 27. 145.

Phalæna quadripustulata. Donov. Brit. Ins. 13. 463.

HABITAT in Wallia frequens, atque in Devonia. Imago Aug. Ericetis.

EXPANSIO alarum 1 unc. 4 lin.

OBS. Annulus parvus fuscus extat in singula ala fere in medio, at costam versus.

OBS. I have seen this in several collections, but it is rare in England, although I am informed it is abundant in Wales.

obscuraria. 116. * † G. (The dark Annulet) alis nigro cinerascentibus, striga communi dentata saturatiore pone annulum saturatiorem singula ala.

Geometra Obscuraria. Hüb. Schmet. Geom. 27. 146.

HABITAT in Britannia rarissime.

EXPANSIO alarum 1 unc. 4 lin.

OBS. Forte mera varietas præcedentis, nempe vix differt nisi in coloribus saturatioribus.

OBS. 2. This and the preceding would probably arrange better at the beginning, than at the end of the present section.

14. PHALÆNA.

(THE LOOPER.)

Phalæna. Fab. Gen. Ins. 164.

Phalæna Geometra. Lin.—Yates.

CHARACTER GENERIS.

Palpi. cylindrici. F.

Lingua porrecta, membranacea. F.

Antennæ omnino setaceæ, vel in lente rarius minutissime serratæ.

Abdomen semper gracile.

Larva geometra, semper gracilis, decapoda; pedibus 6, pectoralibus: 2, posticis caudam versus: et 2, terminalibus ipsius caudæ.

CHARACTERES SECTIONUM.

1. MACULATÆ. Alis albis sæpissimè maculato-fasciatis.

1. STRIGATÆ. Alis fuscis vel albidis, fasciis angustis, vel strigis variis saturatioribus.

3. CENTRO-FASCIATÆ. Alis sæpius plus minus cinereis, rarissime luteis vel viridibus, semper fascia lata medio, extus dentata, quæ tamen sæpe valde insolida est.

4. LIMBO-FASCIATÆ. Alis albissimis, rarissime flavis, basi subinde, limbo semper nigro-fasciatis.

5. OBLIQUATÆ. Alis fuscis vel griseis, fascia una alterave valde obliqua, lineolaque obliqua apicis, fuscis.

6. FLAVATÆ. Alis semper plus minus flavis, vel flavicantibus, strigis, fasciis, maculisve saturatioribus.

7. BICOLORATÆ. Coloribus duobus solum, volatu sæpe diurno.

8. ANGU-

8. ANGULATÆ. Alis angulatis strigis saturatioribus.

9. CLATHRATÆ. Alis albido-flavicantibus, nigro fuscove irregulariter reticulatis, seu quasi clathratis.

10. UNDATÆ. Alis albis, vel albidis, rarius cinereo-fuscescentibus, vel luteis, semper strigis plus minus undatis: singulis plerumque puncto medio ordinario fusco.

11. LIMBO-NOTATÆ. Alis albis vel albidis, limbo vel costa fusco plus minus eleganter notato.

12. ABBREVIATÆ. Alis varie fuscis, cinereis, viridibusve; posticis magis abbreviatis quam in præcedentibus.

1. MACULATÆ. Alis albis, sæpissime maculato-fasciatis.

Grossulariata. 1. P. (The Magpie) alis omnibus albis, ordinibus sex macularum rotundarum nigrarum plus minus confluentium.
Phalæna Grossulariata. Fab. Ent. Syst. 3. 174. 162.
Phalæna Grossulariaria. Hüb. Schmet. Geom. 16. 81. 82.
Phalæna Geometra Grossulariata. Lin. Faun. Suec. 1261.
HABITAT Larva in Grossularia, Imago f. Jul. Sepibus, Hortisque frequens.
EXPANSIO alarum 1 unc. 10 lin.—2 unc.
DESCRIPTIO. Alarum anticarum ordines macularum 1 et 2 basi; 4 et 5 flexi pone medium, et separati sunt solum flavo colore, qui color subinde maculas, interdum fascias format. Tertius ordo macularum est paulo ante medium flexus: sextus occupat marginem ipsum posticum. Posticæ alæ minus maculatæ. Antennæ nigræ, maris lente hirtæ. Corpus luteum, ordinibus macularum nigrarum.
OBS. Variat maxime luteo, nigrove. Nigræ maculæ sæpe plus minus, et rarissime fere omnes evanescunt.

melanata. 2. • † P. (The yellow-underwing'd Magpie) pectinicornis alis nigro punctatis maculatisque, anticis albidis, posterioribus luteis. L.
Phalæna melanaria. Fab. Ent. Syst. 3. 143. 51.
Phalæna Melanaria. Hüb. Schmet. Geom. 16. 86.
Phalæna Geometra melanaria. Lin. Faun. Suec. 1240.
EXPANSIO alarum

OBS.

OBS. I have heard that this is a British species, and therefore here enumerate it, although I have not yet seen any but foreign specimens.

P. (The scarce Magpie) alis albis, fascia basi, alteraque communi pone medium maculari fuscis, luteis, plumbeisque, argenteo parum irroratis. *Ulmata.* 3.

Phalæna Geometra Ulmata. Fab. Ent. Syst. 3. 176. 171. *cum synonymis incertis.*

Geometra Ulmaria. Hüb. Schmet. Geom. 16. 85.

Phalæna Geometra Sylvata. Vill. Ent. 2. 363. 569. *cum icone.*

HABITAT in Com. Ebor. frequens. Imago m. Jun. Ulmosis.

EXPANSIO alarum 1 unc. 9-10 lin.

DESCRIPTIO. Antennæ nigræ, maris lente hirtæ, sive villosæ. Corpus luteum, ordinibus numerosis punctorum nigrorum. Alæ anticæ basi fasciâ fusco-brunneâ luteo sectâ. Paulo pone medium, costam versus macula rotundata majuscula plumbea: tunc pone medium fascia flexa ex maculis confluentibus plumbeis, costam versus, fuscis, olivaceis, luteis, argenteisve versus marginem tenuiorem, ubi fascia latior est. In margine postico maculæ albæ plumbeæ. Alæ posticæ albæ, maculâ subsolitariâ ante medium, alterâque subinde medio marginis postici.

P. (The Panther) alis omnibus albidis, striga obliqua maculari, maculis ad marginem tenuiorem majoribus. *pantaria.* 4. * †

Phalæna Geometra pantaria. Lin. Syst. Nat. 2. 863. 218.

Geometra Pantaria. Hüb. Schmet. Geom. 16. 84?

Phalæna Ulmata. Fab. Ent. Syst. 3. 176. 171. Forte cum priore confusa.

HABITAT in Devonia. In Museo D. Francillon.

EXPANSIO alarum.

OBS. Statura G. Ulmatæ, sed paulo minor.

P. (The black-veined) alis albis immaculatis, subtus venis maculaque medio nigris, fasciolaque subpostica fusca. *dealbata.* 5.

Phalæna Dealbata. Fab. Ent. Syst. 3, 177. 173.

Phalæna Geometra dealbata. Lin. Syst. Nat. 2. 870. 256.

Geometra dealbaria. Hüb. Schmet. Geom. 41. 214.

HABITAT, Imago i. Jun. Compascuis cretaceis at valde infrequens.

EXPANSIO alarum 1 unc. 9 lin.

DESCRIPTIO. Oculi et lingua nigra; pedes etiam nigri, at basin

basin versus sæpe plus minus albo-farinosi. Posticæ alæ subtus albæ nigro-venosæ.

OBS. Vix hujus sectionis: an potius affinior ad *Bicolores*?

2. STRIGATÆ. Alis fuscis vel albidis, fasciis angustis vel strigis variis saturatioribus.

cervinata. 6. P. (The scarce Tissue) Alis griseis, strigis duabus validis fasciæformibus medio, punctoque interjecto fuscis.

Geometra Cervinata. Hüb. Schmet. Geom. 51. 266.

HABITAT, Imago i. Ap. Hortis, at rarissime.

EXPANSIO alarum 1 unc. 9-10 lin.

DESCRIPTIO. Alæ anticæ griseæ, strigis sive fasciolis obsoletis ante medium; tunc fasciis duabus angustis validioribus, exteriore subtriangulatâ, punctoque ordinario interjecto subtus costam. Hæ fasciæ medio alæ per strigas subinde ita confluunt, ut pene in unam coeunt. Sæpe juxta marginem posticum striga undulata alba evanescens. Posticæ fuscæ strigis variis ordinariis undulatis saturatioribus pallidioribusque evanescentibus.

dubitata. 7. P. (The Tissue) alis fuscis nitidis, tinctura subpurpurascentis, fascia crenata insolida medio, saturatiore, in duas fere divisa.

Phalæna dubitata. Fab. Ent. Syst. 3. 168. 141.

Geometra Dubitata. Hüb. Schmet. Geom. 51. 265.

HABITAT, Imago f. Mai. m. Aug. Hortis vix frequens.

EXPANSIO alarum 1 unc. 8 lin.

DESCRIPTIO. Priori simillima. Alæ primores paululum rotundiores, longe nitidiores: fasciâ insolidâ medio, latiore ad marginem tenuiorem.

plagiata. 8. P. (The slender Treble-bar) alis cinereo-albidis, strigis tribus undulatis compositis fuscis.

Geometra Plagiata. Hüb. Schmet. Geom. 42. 220.

HABITAT, Imago i. Jun. i. Sept. Dumetis.

EXPANSIO alarum 1 unc. 5-9 lin.

DESCRIPTIO. Cinerea. Alæ anticæ strigâ primâ basin unangulatâ et crassiore costam versus at insolida: tunc fere in medio, striga secunda ex tribus hinc illinc paulo confluentibus composita: tunc pone medium striga tertia, priori simillima, at extus magis angulatim undulata. Præterea, striga geminata fuscescens evanescens, extat inter primam

et

et secundam: et altera simillima posita pone strigam tertiam desinens in lineolam obliquam subfulvam apicis. Margo posticus alis paulo saturatior. Cilia plus minus cinerea, vel subinde fusco maculata. Posticæ albicantes strigâ medio, ordinariâ evanescente.

β. Fere duplo major, lineolâ obliquâ apicis subinde fuscâ, strigâ posticarum saturatiore.

γ. Ultima fere triplo minor, absque strigis evanescentibus; strigisque validis secundo et tertio fere omnino in unam confluentibus, areolâ albidâ costam versus solum relictâ: posticis alis saturatioribus quam in α.

Phalæna duplicata. Prod. Lep. Brit. Append. 5. 1.—et forte aliorum.

Communicavit amicus Rev. T. Skrimshire, LL. B.—F. E. S. Entomologus acutus.

P. (The November) albido-cinereis, strigis variis undulatis duplicatis triplicatisve, æquidistantibus saturatioribus. *dilutata.* 9.

Geometra Dilutata. Hüb. Schmet. Geom. 36. 188. α.

Phalæna omicrata. Prod. Lep. Brit. 25. 23.—*et Musæorum Londinensium.*

HABITAT, Imago, i. Nov. Dumetis, frequens.

EXPANSIO alarum 1 unc. 3-7 lin.

DESCRIPTIO. Valde variat.

α. Alis albidis, strigis fuscescentibus, plus minus evanescentibus. Posticis albis, strigis posticis ordinariis saturatioribus.

β. Dimidio minor, alis albidis, strigis omnibus fere omnino obliteratis. Communicavit ex Com. Ebor. ejus captor amicus H. E. Strickland.

γ. Alis fuscis, strigis saturatioribus ita confluentibus, ut fascias angustas absolute constituunt.

δ. Alis fuscis absque strigis.

P. (The twin-striped Pinion) alis cinerascentibus, strigis subquinque geminatis costalibus fuscis. *costæstrigata.* 10.

HABITAT in Cantio apud Westerham. Imago Truncis Jul. D. Plastead. ♀ ♂

EXPANSIO alarum

DESCRIPTIO. Alæ albo-cinerascentes, strigis abbreviatis geminatis æquidistributis costalibus circiter quinque, ex quibus sæpius excurrunt strigæ geminatæ, vel simplices fere omnino obliteratæ usque ad marginem tenuiorem. Facies P. dilutatæ at duplo vel triplo minor, alis angustioribus.

P. The

dentistrigata. 11. P. (The early Tooth-striped) alis albidis, strigis obsoletissimis fuscescentibus, exteriore intus dentata.

Geometra Rupestrata. Hüb. Schmet. 37. 192?

HABITAT in Anglia rarissime. Imago apud Coomb Wood, m. Ap.

DESCRIPTIO. Magnitudo præcedentis, sed alæ omnes angustiores; anticæ albidæ, dilutissime virescentes, teneriores, strigis undatis fuscescentibus obsoletis circiter quinque; costam versus magis conspicuis. Margo ipse posticus punctis minutissimis fuscis, geminatis. Posticæ etiam angustæ tenerrimæ puncto ante medium strigisque duabus posticis obsoletis fuscescentibus, margine postico cinerascente strigâ parum interruptâ nigrâ, ipsius marginis, ciliis amplis niveis.

OBS. Perhaps this species would arrange better at the head of the section Abbreviatæ. It comes extremely near the Geometra rupestrata of Hübner, yet appears distinct from it.

fimbriata. 12. P. (The bordered November) alis fusco-cinereis, posticis albis; fimbria communi undulatim strigata fusca.

HABITAT apud nos valde infrequens. Imago, Autumno, Com. Bedford. et Cantio. Communicavit amicus ejus captor Rev. C. Abbott. D. D.—F. L. S.

EXPANSIO alarum 1 unc. 6 lin.

DESCRIPTIO. A penultima vix differt, nisi in absentia strigarum anteriorum: tamen satis distincta.

undulata. 13. P. (The Scolop-shell) alis omnibus griseo-cinereis, strigis numerosissimis perundulatis fuscis extus albis.

Phalæna undulata. Fab. Ent. Syst. 3. 175. 165.

Geometra Undulata. Hüb. Schmet. Geom. 51. 262.

HABITAT. Imago Sylvis f. Jun. at rarius.

EXPANSIO alarum 1 unc. 4 lin.

DESCRIPTIO. Persingularis species atque concinna, alis omnibus undique confertim strigatis, strigâ ultimâ cæteris albidiore, magisque conspicuâ et crenatâ. In medio inter cæteras una striga marginem tenuiorem versus moniliformis evadit, ex annulis fuscis concatenatis. Corpus fuscum nigro punctatum.

vetulata. 14. P. (The brown Scolop) alis dentatis fuscis, fascia medio, strigisque numerosis undulatis communibus obsoletissimis saturatioribus.

Geometra Vetulata. Hüb. Schmet. Geom. 51. 265.

Phalæna fuscata. Prod. Lep. Brit. 27. 55.

HABITAT, Imago f. Jun. Sylvaticis cretaceis, rarius.

EXPANSIO alarum 1 unc. 3 lin.

DESCRIPTIO.

DESCRIPTIO. Species obscura. Anus maris barbâ prægrandi. Alæ omnes fuligineso-fuscæ, strigis variis communibus fere omnino obliteratis saturatioribus, fasciâ medio saturatiore obsoletissime strigiferâ punctoque ordinario fusco costam versus. Posticæ similes sed magis dentatæ.

P. (The July Highflyer) alis viridibus, varie nigro atomosis nebulosis et strigatis, macula postica alba; posticis fuscis. *elatata.* 15.

Phalæna Geometra virgata. Villars. Ent. 2. 379. 617.
Geometra Elatata. Hüb. Schmet. Geom. 43. 224. *a.*
HABITAT apud nos frequentissime, Imago Jul. volatu vaccillante in alto.
EXPANSIO alarum 1 unc. 2-3 lin.
DESCRIPTIO. Maxime variat.
α. Macula parva postica alba sæpe in medio fasciolæ nigræ.
β. Macula alba postica extendente in strigam albicantem, quæ subinde abbreviata est costam versus. Forte alia.

P. (The yellow-striped Highflyer). Alis viridibus nigro varie strigatis posticis fuscis. *fusco-undata.* 16.

Phalæna fusco-undata. Don. Brit. Ins. 11. pl. 386.
HABITAT cum præcedente.
EXPANSIO alarum 1 unc. 1-2 lin.
DESCRIPTIO. Præcedenti nimis affinis, at vix atomosa, et sæpe, nec semper, absque macula postica alba alarum anticarum; strigis paucioribus validioribusque, fascias fere constitutenibus. Variat.
α. Alis anticis sæpius absque macula postica alba.
β. Viridi-lutea, fasciâ basi, alterâque medio extus angulatâ, maculâque parvâ posticâ albis.
γ. Alis luteo-viridibus, fascia basi, alia medio, angulata, rufis vel rufescentibus, maculaque postica viridi-rufescente.
OBS. Mr. Donovan observes, that this insect chiefly differs from the July Highflyer, in wanting "the small white spot on the band at the posterior apex of the first pair of wings." *Don. l. c.*

P. (The May Highflyer) alis cinereis striga antica obliqua nigra, fascia contigua medio, aliaque insolida postica fuscis. *impluviata.* 17.

HABITAT. Imago f. Mai. Peridumetis, at infrequens prope Londinum. Frequentior in Com. Ebor. Volat melius Vespere humido vel subpluvioso.
EXPANSIO alarum 1 unc. 2-3 lin.
DESCRIPTIO. Variabilis species.

α. Alis anticis albicantibus, cinerascentibus, vel rarius virescentibus, strigâ primâ nigrâ obliquâ at rectâ juxta basin. Tunc fascia contigua sæpe nebulosa, et insolida, paululum ante medium, et utraque minime undulata. Tunc spatium fasciæ forme album: demum fascia secunda insolida, sæpe quasi in duas divisa et utraque plus minus denticulata: denique ad apicem lineolæ duæ obliquæ nigræ. Posticæ cinereæ, seu fuscescentes vix strigatæ.

Geometra Impluviata. Hüb. Schmet. Geom. 43. 223.

β. Major magisque cinerea, fasciis rufescentibus, secunda minus conspicua quam in α; cæteris ut in illa.

γ. Alis cinerascentibus paululum nebulosis, characteribus omnibus fere omnino obliteratis.

rufata. 18. P. (The Broom Tip) alis-rufo-cinereis striga rectangulata evanescente basi, alteraque flexa fasciæformi pone medium brunneo-fuscis.

Phalæna rufata. Fab. Ent. Syst. 3. 181. 186.

Phalæna Geometra Bombycata. Hüb. Beit. 1. 2. 2. K.

HABITAT. Imago m. Mai. Spartiosis.

EXPANSIO alarum 1 unc. 2-3 lin.

DESCRIPTIO. Alæ subcinerascentes paulo nebulosæ; strigâ rectâ albâ juxta marginem posticum, quæ desinit in lineola obliqua picea apicis. In ipso margine postico striga tenuis nigra interrupta, intus parum albicans, ciliis cinereis. Posticæ subfuscæ immaculatæ.

OBS. Mr. Donovan figures this species by the name of Phalæna Bombycata, tab. 386. 4. but without any reference to any author. He also gives it the english name of the "Chevron Moth,"—which belongs to Phalæna testata.

3. CENTRO-FASCIATÆ. Alis sæpius plus minus cinereis, rarissime luteis vel viridibus, semper fascia lata medio, extus dentata, quæ tamen sæpe valde insolida est.

Prunata. 19. P. (The Phœnix) alis griseo-cinereis, fascia basi, altera medio, maculaque apicis hæmispherica fusco-brunneis, albo marginatis.

Phalæna prunata. Fab. Ent. Syst. 3. 178. 175.

Phalæna Geometra Prunata. Lin. Faun. Suec. 1267.

Geometra Prunata. Hüb. Schmet. Geom. 59. 304.

HABITAT. Imago i. Aug. Peridumetis.

EXPANSIO

EXPANSIO alarum 1 unc. 5 lin.

DESCRIPTIO. Alæ anticæ basin versus fasciâ angustâ angulatâ indeterminatâ fusco-brunneâ, extus albido marginatâ; secundâ latâ, in medio, parum curvâ, utraque grosse crenatâ et albido marginatâ. Pone has costam versus, striga abbreviata ex punctis 2-6 majusculis saggittatis atris concinnis. In margine postico usque ad apicem macula semiovata subdentata, albido etiam marginata. Posticæ pallide fuscescentes undis tribus posticis ordinariis intus saturatioribus extus pallidioribus.

P. (The small Phœnix) alis cinereis nebulosis nitidis, fascia basi alteraque medio, utraque trilobata dentataque brunneo-fuscis. *silaceata.* 20.

Geometra Silaceata. Hüb. Schmet. Geom. 59. 303?

HABITAT apud nos rarissime. Exemplaria duo solum vidi.

EXPANSIO alarum 1 unc. 3 lin.

DESCRIPTIO. Præcedenti similis at duplo minor, fasciis pallidioribus. Pone fasciam secundam striga obsoleta punctorum albidiorum, fusco plus minus innatorum. Cætera priore convenit, at antennæ maris parum pectinatæ.

P. The water Carpet) alis cinereis subnebulosis aquosè nitidissimis, fascia basi, alteraque medio, extus lobatim producta piceis arguteque irregulariter dentatis. *suffumata.* 21.

Geometra Suffumata. Hüb. Schmet. Geom. 59. 306.

Geometra insititiata. Marsh. M. S.—et Prod. Lep. Brit. 25. 25.

HABITAT Imago Ap. Sylvaticis.

EXPANSIO alarum 1 unc. 2 lin.

DESCRIPTIO. Præcedenti simillima ut ovum ovo; at differt antennis validis, sed non nisi lente pectinatis; coloribus saturatioribus et nitidioribus; fasciis paulo angustioribus, magis distantibus dentatisque. Nihilominus forte mera varietas.

P. (The dark marbled Carpet) alis cinereis fasciis duabus nigris argute dentatis. *immanata.* 22.

Geometra immanata. Marsh. M. S.

Phalæna immanata. Prod. Lep. Brit. 26. 29.

HABITAT rarius in Cantio. Imago i. Jul. Sylvaticis. In Norfolcia frequens.

EXPANSIO alarum 1 unc. 1-3 lin.

DESCRIPTIO. Affinis præcedentibus at valde distincta absque nitidis coloribus. Maxime variat.

a. Alæ anticæ cinereæ, fasciâ solidâ angustâ angulatâ seu dentatâ juxta basin: secundâ etiam solidâ medio, extus ad medium

medium valde productâ, et utraque argute irregulariter dentatâ. Adnata est ad fasciam secundam macula magna costalis albicans.

β. Alis tincturâ griseo-ferruginei, fascia medio, plus minus ex nigro ferrugineo.

γ. Alis minus ferrugineis, fasciis insolidis, seu centro cinerascentibus.

δ. Minor, absque tincturâ ferruginei fasciis insolidis seu centro cinereis.

marmorata. 23. P. (The marbled Carpet) âlis ferrugineo-cinereis subnebulosis, fascia medio, alba nigro undulata, extus producta argute-que dentata.

Phalæna marmorata. Fab. Ent. Syst. 3. 192. 229.

Phalæna punctum-notata. Marsh. M. S.—et Prod. Lep. Brit. 26. 28.

HABITAT prope Westerham in Cantio, in Norfolcia, atque in Com. Ebor, sed infrequens. Imago Jul. Aug. Sepibus.

EXPANSIO alarum 1 unc. 1-2 lin.

DESCRIPTIO. Præcedente solum differt colore fasciæ. Etiam variat.

α. Alis ferrugineo, albo nigroque variis, fascia medio alba fusco undulata.

β. Alis ferrugineo, nigroque saturatioribus, fascia alba, nigro atomosa undulataque. Posticis magis fuscescentibus quam in priore.

γ. Major characteribus omnibus validioribus. Varietas pulcherrima.

centum-notata. 24. P. (The common marbled Carpet) alis subcinereis, fascia medio cinerea, extus argute dentata.

Phalæna centum-notata. Fab. Ent. Syst. 3. 191- 228.

Geometra Russata. Hüb. Schmet. Geom. 59. 305.

HABITAT, Imago f. Mai, atque autumno, Sylvaticis frequens.

EXPANSIO alarum 1 unc. 1-3 lin.

DESCRIPTIO. Ultimæ simillima, sed sufficienter differt in fascia medio alarum superiorum externe minus producta. Etiam valde variat.

α. Alis varie fuscis cinereis, ferrugineisque.

β. Fere absque ferrugineo; figurâ 8 medio marginis tenuioris alarum superiorum.

γ. Fascia medio magis albescente, angulo antico fusco costali excepto.

δ. Minor absque tinctura ferruginei, fascia in medio alæ cinerea.

P. (The

P. (The brown marbled Carpet) alis sub-cinereis fascia edentula basi, alteraque medio argute dentata nigris. *perfuscata.* 25.

HABITAT in Cantio rarissime Sylvaticis. Exemplaria tria solum vidi.

EXPANSIO alarum 1 unc. 2-3 lin.

α. Variat ut in affinibus. Priore solum differt fascia medio alæ nigra, nec cinerea. Antepenultima etiam satis discrepat in fascia medio minus producta.

β. Alis antice posticeque longe saturatioribus, seu minus albis quam in *α*, fascia medio alæ fusca.

γ. Puncto distincto albo in fascia medio anticarum. Cæteris ut in *β*. Communicavit ejus captor Rev. J. Burrell.

OBS. The Phalæna strigulata, P. lineolata, and even P. myopata, of Fabricius's Ent. Syst. 3. pages 192 and 193, are probably not specifically distinct from one or other of the last four enumerated species, or their extensive variations: but which of them it is, at present, no easy matter satisfactorily to determine.

P. (The yellow marbled-Carpet) cinereo-fuscis, fascia medio latissima fulva, extus sinuatim crenata. *comma-notata.* 26.

HABITAT. Imago Sylvaticis, Hortisque, f. Mai. atque Autumno sed infrequens.

EXPANSIO alarum 1 unc. 3 lin.

Geometra comma-notata. Marsh. M. S.

Phalæna comma-notata. Prod. Lep. Brit. 26. 27.

DESCRIPTIO. Similis præcedentibus, at satis distincta in fascia fulva seu lutea; quæ punctum nigrum gerit medio, costam versus, ut in permultis. Nunquam variat.

P. (The shoulder Stripe) alis rufo-albidis, strigis, fasciolis, fimbriaque fuscis. *badiata.* 27.

Geometra Badiata. Hüb. Schmet. Geom. 56. 291.

HABITAT. Imago i. Ap. Peridumetis, at infrequens.

EXPANSIO alarum 1 unc. 2 lin.

DESCRIPTIO. Alæ anticæ ante medium fasciolis duabus tribusve badiis subincurvis compositis ex strigis variis obsoletis: tunc spatium sive fascia pallida: tunc fasciola extus alte crenata obscura: tunc altera fasciola, itidem obscura pallida: denique fimbria lata badia usque ad finem, lineolâ obliquâ apicis fuscâ, ut in plurimis hujus sectionis. Posticæ pallidæ ciliis badiis.

P. (The Flame) alis flammeo-rubris, fascia basi fusca, alteraque medio insolida, externe argute crenata. *rubidata.* 28.

Phalæna rubidata. Fab. Ent. Syst. 3. 180. 184.

Geometra

Geometra Rubidata. Hüb. Schmet. Geom. 56. 290.
HABITAT rarius, Imago i. Jul. Sylvis.
EXPANSIO alarum 1 unc. 1 lin.
DESCRIPTIO. Alæ anticæ fascia angusta incurva fusca et subinsolida juxta basin: altera latissima insolida medio, composita ex fasciola angusta incurva fusca, spatio pallescente, et fasciola alia insolida fusca extus argute crenata, desinente in strigam tenuissimam a medio alæ ad marginem tenuiorem. Posticæ fusco-cinerascentes.

sinuata. 29.

P. (The royal Mantle) alis niveis fascia basi, alteraque postica abbreviata costali fuscis.
Geometra Sinuata. Hüb. Schmet. Geom. 56. 288.
Phalæna regalata. Prod. Lep. Brit. 25. 7.
HABITAT prope Londinum valde infrequens: etiam in Devonia: Imago i. Jul. Sylvis. In Musæis quinque solum vidi.
EXPANSIO alarum 1 unc. 1 lin.
DESCRIPTIO. Alæ anticæ albissimæ, basi, fasciis duabus angustis nigris, parum incurvis: pone medium fascia abbreviata costalis nigra; alteraque contigua rubidata utraque albido marginata. Margo posticus ciliaque fuscescentia. Posticæ albæ margine strigisque fuscescentibus.
OBS. In exemplaribus præclaris striga ex arcubus tenuissimis nigris, transit externe, aliaque geminata fusca recta interne, a fascia superdescripta abbreviata usque ad marginem tenuiorem.

derivata. 30.

P. (The Streamer) alis rufo-pallidis, fasciolis angustis saturate fuscis.
Geometra Derivata. Hüb. Schmet. 56. 289.
Phalæna fimbriata. Fab. Ent. Syst. 3. 187. 212.
Phalæna mæniaria. Fab. Ent. Syst. 3. 156. 97.
HABITAT. Imago, i. Jun. Sylvis, rarius.
EXPANSIO alarum 1 unc. 2 lin.
DESCRIPTIO. Præcedentibus affinis sed satis distincta fasciolis duabus tribusve, magis distantibus; tertia non crenata, sed extus in medio longe producta in angulum acutum; at ultra angulum subinde fere evanescente.
OBS. Neither the specific name, nor description of this species in Fabricius, being so expressive as is usual with him: the name of Hübner has been preferred, which has likewise the claim of priority.

biangulata. 31.

P. (The cloaked Carpet) alis virescentibus fascia lata biangulata medio, saturatiore, ante fasciolam albam.
Phalæna biangulata. Marsh. M. S. et Prod. Lep. Brit. 26. 30.
HABITAT

HABITAT vix frequens prope Londinum; frequentior in Norfolcia, Imago Jun. Sylvaticis.
EXPANSIO alarum 1 unc. 3-4 lin.
DESCRIPTIO. Alæ antice cinereo-virides, tunc fascia lata conspicua viridi-fusca nigro nebulosa, extus productim bidentata: pone hanc fasciola alba, strigæque undulatissimæ fuscæ, atque margo posticus viridis. Cilia viridia ordine macularum fuscarum. Posticæ cinerascentes, sæpe strigis variis ordinariis.
β. Alis lutescentibus nec viridibus, cæteris ut supradictis.

P. (The broken-barr'd Carpet) alis atomoso-cinereis, fascia lata basi, alteraque medio, fracta argute et irregulariter dentatis fuscis. *ruptata.* 32.
Geometra Ruptata. Hüb. Schmet. Geom. 57. 295.
Phalæna interruptata. Prod. Lep. Brit. 26. 34.
HABITAT, Imago m. Jun. Sylvaticis.
EXPANSIO alarum 1 unc. 2-3 lin.
DESCRIPTIO. Priori affinis at minor, absque viridi. Posticæ alæ pallidiores.
β. Fascia in medio alæ continua.
γ. Alis varie tinctura olivacei, cæteris ut in charactere specifico.
Geometra Ruptata. Hüb. l. c. 57. 295.

P. (The grey Carpet) alis cinereo-fuscis, fasciis duabus strigaque fuscis. *variata.* 33.
Geometra Variata. Hüb. Schmet. Geom. 57. 293.
Phalæna variata. Trans. Entom. Soc. Lond. pars. 2. cum icone.
HABITAT in Anglia rarissime. Imago Jul. Peridumetis, J. Hatchett, in cujus Musæo.
EXPANSIO alarum.
DESCRIPTIO. Statura et magnitudo P. Juniperatæ Lin. Alæ anticæ basi, fasciâ fuscâ, alterâ medio, sinuatâ angulatâque prope costam, sed attenuatâ et fere fractâ marginem tenuiorem versus. Inter hanc et marginem posticum striga lata obsoleta subfusca extus pallescens. Cilia fusco maculata. Posticæ alæ fuscescentes.
OBS. In medio fasciæ centralis anticarum, area quasi pallidior, in qua punctum fuscum ordinarium.
OBS. 2. I suspect that figure 6, on table 8, of Harris's *Exposition*, is intended for this species: and "The shaded Broad-bar" of his *Aurelian*, as far as I recollect, may likewise be the same: but this, it is not possible, at present, to determine; as I do not possess the latter work.

P. (The

munitata. 34. P. (The rufous Carpet) alis fuscescentibus, fascia basi, alteraque medio, extus productim obtuse unangulata, subcrenata fulvis.

Geometra Munitata. Hüb. Schmet. Geom. 66. 346.

Phalæna Tristrigaria. Donov. Brit. Ins. 13. 461. 2.

HABITAT in Pinetis, Imago i. Jun. et f. Sept. Prope Londinum valde infrequens; sed vulgaris apud Westerham in Cantio.

EXPANSIO alarum 1 unc. 2-3 lin.

DESCRIPTIO. Alæ unicolores, pallide fusco-fulvicantes, fasciis fulvis ut in charactere specifico, lineolâque obliquâ obsoletâ, apicis saturatiore. Posticæ pallide fuscescentes tincturâ obsoletâ fulvedinis.

OBS. Although the present species has been generally understood in this country to be the Juniperata of Linnæus, I am no longer of that opinion, as it does not agree sufficiently well with his definition of that insect.

fulvata. 35. P. (The barred Yellow) alis flavo-fulvis, fascia angusta basi, alteraque lata unangulata medio brunneo-fulvis, maculaque conica flava apicis.

Phalæna Geometra fulvata. Forst. Cent. 76. 76.

Geometra Fulvata. Hüb. Schmet. Geom. 57. 297. nec Fab.

Phalæna sociata. Fab. Ent. Syst. 3. 198. 253.

HABITAT. Imago i. Jul. Dumetis. frequens.

EXPANSIO alarum 1 unc.

DESCRIPTIO. Fascia angusta juxta basin alarum anticarum, quæ subinde fere ad basin extendit. Secunda concinna medio, interne paululum sinuata, externe medio productim unangulata. Posticæ albidæ tincturâ lutescente. Cilia omnia lutea, at in anticis alis fusco maculata.

OBS. This is frequently called the clouded Yellow.

decolorata. 36. P. (The sandy Carpet) alis testaceo-cinerascentibus, strigis quatuor obsolete dentatis albis.

Geometra Decolorata. Hüb. Schmet. Geom. 47. 243.

HABITAT Imago sylvaticis, at valde infrequens.

EXPANSIO alarum 1 unc.—1 unc.-1 lin.

DESCRIPTIO. Alæ testaceæ strigis quatuor validis æquidistantibus albis, prima juxta basin, secunda medio, tertia interrupta inter ultimam et marginem posticum: quarta juxta cilia undulata, cæteris gracilior. Posticæ albæ, striga medio, fimbriaque pallidissime fuscescentibus.

miata. 37. P. (The autumn green Carpet) alis cinereo-viridibus, fascia basi,

basi, alteraque medio saturatioribus sordide viridibus; posticis albidis.

Phalæna Geometra miata. Lin. Faun. Suec. 1168.

Phalæna miata. Fab. Ent. Syst. 3. 180. 183.

Phalæna luctuata. Fab. Ent. Syst. 3. 195. 239.

HABITAT. Imago f. Sept. Septis, at infrequens.

EXPANSIO alarum 1 unc. 2 lin.

DESCRIPTIO. Fasciæ fere ut in antepenultima, at sordide virides, et medio vix solidæ. Posticæ albidæ, puncto ante medium fusco, strigâque posticâ ordinariâ saturatiore; strigaque alia in ipso margine postico, ex punctis nigris minutissimis geminatis.

β. Alis tinctura lutescente. Forte mera exemplarium antiquum, at fascia in medio alarum anticarum latior est quam in α. Communicavit amicus J. Hatchett.

P. (The red-green Carpet) alis rufo-viridibus, fascia basi alteraque medio saturatioribus rufo-viridibus, posticis fuscis. 38. *psittacata.*

Phalæna rubro-viridata. Marsh. M. S.—et Prod. Lep. Brit. 26. 31.

Geometra Psittacata. Hüb. Schmet. Geom. 43. 227.

Phalæna psittacata. Fab. Ent. Syst. 3. 195. 238.

HABITAT. Imago m. Oct. Truncis, at valde infrequens.

EXPANSIO alarum 1 unc. 2 lin.

DESCRIPTIO. Nimis affinis præcedenti, at distincta et invariabilis: semper tinctura rufedinis: alæ posticæ semper fuscæ.

β. Pulchrior, coloribus clarioribus, magisque virescit.

OBS. This has sometimes been called the Bullstrode Carpet.

P. (The brindle-barred Yellow) alis flavicantibus nigro nebulosis, fasciis ex punctis nebulisque nigris. 39. *viretata.*

Geometra Viretata. Hüb. Schmet. Geom. 44. 230?

HABITAT. Imago vero tempore at rarissime prope Londinum.

EXPANSIO alarum 1 unc. 1 lin.

DESCRIPTIO. Alæ anticæ flavæ, fasciolis, strigisque æquidistantibus nigro flavoque variis, et quasi ex nebulis punctisque nigris: strigâ marginali ex punctis nigris quadrinatis minutis, ciliis cinereis fuscisque. Posticæ cinerascentes immaculatæ.

EXEMPLARIUM valde imperfectum communicavit ejus captor amicus Rev. T. Skrimshire.

P. (The waved Carpet) alis omnibus albis fusco atomosis, nebulosisque, fasciis tribus angustis, strigaque postica ex arcubus griseo rufescentibus. 40. *sylvata.*

Geometra Sylvata. Hüb. Schmet. Geom. 44. 251?

HABITAT in Cantio at infrequens. Imago f. Mai. Sylvis cretaceis.

EXPANSIO alarum 11 lin.

DESCRIPTIO. Alæ anticæ fasciâ primâ basi angustissimâ strigæformi, secundâ ante, et tertiâ pone medium, communibus, subarcuatis, parum undulatis, et quasi ex strigis geminatis compositis: inter ultimam et marginem posticum, striga communis, ex arcubus subfuscis, sæpius concatenatis. In ipso margine ordo lineolarum atrarum distinctissimarum, ciliisque cinerascentibus.

cæsiata. 41. * †

P. (The February Carpet) alis fuscescentibus, fascia lata fusca dentata albo submarginata, ad marginem crassiorem bifida.

Geometra Cæsiata. Hüb. Schmet. Geom. 53. 275.

HABITAT. Imago Peridumetis prope Peckham f. Feb. frequens. D. Honey.

DESCRIPTIO. P. fluctuata major, puncto fusco ordinario in fasciæ fuscatione alarum anticarum. Versus apicem striga alba denticulata. Posticæ fuscescentes.

infrequentata. 42. * †

P. (The scarce Carpet) alis subcinereis, fascia undata fusca extus arcuata puncto ordinario fusco, strigaque juxta apicem undulatissima alba.

Geometra Cyanata. Hüb. Schmet. Geom. 62. 319?

HABITAT rarissime apud nos. In Musæo D. Bentley.

OBS. Magnitudo et statura præcedentis.

insulata. 43.

P. (The insulated Carpet) alis cinereis fasciâ latâ medio, fusca albo interrupta, striga postica macularum conicarum, maculaque parabolica sesquialtera marginis postici, fuscis.

Phalæna insulata. Marsh. M. S.—Prod. Lep. Brit. 26. 35.

HABITAT. Imago f. Ap. f. Mai. sylvis, at valde infrequens.

EXPANSIO alarum 1 unc. 2-3 lin.

DESCRIPTIO. Alæ anticæ basi fasciâ fuscâ ut in plurimis hujus sectionis; alia prælata medio, vix crenata, sed centro singulariter pulchre divisa per lineolam seu rivulam albam, insulâ oblongâ fuscâ fasciæ medio relictâ. Pone insulam, rivula alba in qua striga undulata fusca, et ultra rivulam striga venusta macularum distinctissimarum conicarum fuscarum albo marginatarum. Tandem in margine postico, macula parabolica præclara, sesquialtera, punctisque marginalibus fuscis. Posticæ albidæ fimbria saturatiore, pone fasciam pallidiorem.

P. (The

P. (The blunt-angled Carpet) alis cinerascentibus subnebulosis, fascia lata medio, unilobata fusca, nigro strigosa. *unilobata.* 44.

HABITAT in Com. Ebor. at rarissime. Exemplarium unicum solum vidi.

EXPANSIO alarum 1 unc. 2 lin.

DESCRIPTIO. Alæ anticæ albido-cinerascentes, fasciâ parvâ basi fuscâ, aliâ latâ medio, variè undulatim nigro strigosâ, extus sinuata, et quasi ad medium unilobata. Margo posticus saturatior, quam ala, præcipue costam versus, strigâ albâ evanescente ex arcubus contatenatis, in qua macula una alterave didyma nigra prope, vel in costam. Posticæ subfuscæ, strigis ordinariis pallidioribus evanescentibus.

P. (The Necklace Carpet) alis cinereis strigis tribus geminatis, maculaque costali fuscis, fascia antica moniliformi limboque postico albis. *quadriannulata.* 45.

HABITAT apud Wisbeach, at rarissime. Communicavit amicus Gul. Skrimshire.

EXPANSIO alarum 1 unc. 1 lin.

DESCRIPTIO. Præcedenti nimis affinis et forte mera varietas, at characteribus diversis. Alæ basi cinereo-fuscæ, tunc strigis duabus geminatis undulatis fuscis, et inter has fascia angusta ex maculis quatuor rotundis albis conjunctis nigro cinctis: tunc in medio spatium cinereo-fuscum, striga geminata sinuata fusca terminatum, puncto ordinario nigro medio, costam versus. Pone hæc alæ albidæ, at plus minus cinerascunt undis nebulisque saturatioribus, maculâque parvâ emarginatâ nigra costali juxta apicem. Posticæ ut in priore at pallidiores.

OBS. Ipsa costa fasciæ in medio alarum anticarum albescit, sed in priore fusca est.

P. (The purple bar) alis albidis, fasciis duabus, punctoque postico nigris. *ocellata.* 46.

Phalæna ocellata. Fab. Ent. Syst. 3. 188. 216: *ex luso synonymo Wien. Verr.*

Phalæna Geometra ocellata. Lin. Faun. Suec. 1280.

Geometra Ocellata. Hüb. Schmet. Geom. 48. 252.

HABITAT. Imago i. Jun. f. Aug. Sylvaticis, rarius.

EXPANSIO alarum 1 unc. 1-2 lin.

DESCRIPTIO. Alæ anticæ fasciâ rectâ triangulari fuscâ basi, aliâ medio, subdolabriformi purpurascenti-nigrâ, puncto ordinario atro costam versus. Inter fascias nebulæ cinereæ; et in postica parte alarum punctum subinde geminatum nigrum. Posticæ albæ, puncto ordinario, margineque postico saturatioribus.

ß. Nebulis

β. Nebulis inter fascias saturatioribus numerosioribusque, strigisque abbreviatis posticis plumbeis ante punctum geminatum. Forte Fœmina.

Phalæna lynceata. Fab. Ent. Syst. 3. 189. 217.

OBS. P. ocellata, and P. lynceata, scarce appear to differ specifically, but perhaps merely in sex.

Galiata. 47. * †

P. (The Galium Carpet) alis albis, striga lata basi, fasciaque medio, lobulata, seu irregulariter crenata subfuscis.

Geometra Galiata. Hüb. Schmet. Geom. 53. 272.

HABITAT in Anglia D. Francillon.

OBS. Statura et magnitudo P. ocellatæ, cui simillima at distincta.

unangulata. 48.

P. (The sharp-angled Carpet) alis cinereo-fuscis, fascia medio acute unangulata nigra ante aliam communem albam.

Phalæna unangulata. Marsh. M, S.—et Prod. Lep. Brit. 25. 6.

HABITAT, Imago i. Jul. Dumetis, at infrequens.

EXPANSIO alarum 1 unc. 3 lin.

DESCRIPTIO. Fascia medio alarum anticarum concinna subdolabriformis incurva, in qua punctum ordinarium atrum. Limbus omnis posticus communiter cinereo-fuscus strigâ venustâ albâ ex arcubus concatenatis. Posticæ basin versus parum cinerascunt strigis ordinariis saturatioribus.

β. Alis undique tinctura fulvescente. Forte mera exemplarium antiquum. Varietas rarissima.

sylvaticata. 49.

P. (The wood Carpet) alis fasciis strigisque cinereis, albis, fuscisque, limbo omni fusco macula alba interrupto.

HABITAT in cretaceis sepibus in Cantio. Imago f. Jul. frequens.

EXPANSIO alarum 1 unc. 3 lin.

DESCRIPTIO. Præcedenti similis at distincta. Fascia medio anticarum alarum minus acutim angulata, punctis duobus atris fere conjunctis in ipso angulo. Limbus ut in illa, at medio interruptus in omnibus alis maculâ magnâ albicante, quæ subinde obsoleta est, Cæteris convenit.

subtristata. 50.

P. (The common Carpet) alis fasciis strigisque fuscis, cinereis, albisque; limbo omni nigro striga obsoleta communi ex arcubus albis concatenatis.

Phalæna subtristata. Prod. Lep. Brit. 25. 5.

HABITAT. Imago m. Mai, i. Aug. vulgaris in Sylvaticis, Sepibusque.

EXPANSIO alarum 1 unc.

DESCRIPTIO.

DESCRIPTIO. Priori nimis affinis, at minor, minus alba, fasciis angustioribus, minus angulatis.

β. Fascia medio anticarum fusca, valde attenuata, extus costam versus bilobata.

P. (The degenerate Carpet) alis cinereis, fusco nebulosis et crebre strigatis; limbo omni fusco striga communi concinna ex arcubus albis concatenatis. *degenerata.* 51.

HABITAT in Cantio rarissime. Exemplarium unicum solum vidi. Imago i. Aug.

EXPANSIO alarum 1 unc. 1 lin.

DESCRIPTIO. Præcipue differt ab ultima in fascia medio anticarum alarum, quæ degenerata est in strigam interruptam fasciæ formem puncto ordinario atro costam versus.

P. (The small Argent and Sable) alis albis fasciis sinuatis, strigis punctorum, limboque, communibus atris. *tristata.* 52.

Phalæna tristata. Fab. Ent. Syst. 3. 183. 193.
Phalæna Geometra tristata. Lin. Faun. Suec. 1277.
Geometra Tristata. Hüb. Schmet. Geom. 49. 254.
Phalæna contristata. Prod. Lep. Brit. 25. 4.

HABITAT in Angliæ Sylvis. Rarissime, D. Francillon.

EXPANSIO alarum 1 unc.

DESCRIPTIO. Penultimæ simillima, at differt primo intuitu, characteribus atris, nec fuscis; fasciâque centrali albo nebulosâ.

P. The garden Carpet) subpectinicornis, alis albidis, basi, fasciisque duabus abbreviatis, costalibus subrhombeis fuscis. *fluctuata.* 53.

Phalæna fluctuata. Fab. Ent. Syst. 3. 185.
Phalæna Geometra fluctuata. Lin. Faun. Suec. 1281.
Geometra Fluctuata. Hüb. Schmet. Geom. 48. 249.

HABITAT, Imago, Mai. Jun. Jul. Hortis, vulgaris.

EXPANSIO alarum 1 unc.—1 unc. 2 lin.

DESCRIPTIO. Alæ omnes albido-cinerascentes, basi fasciâ triangulari fuscâ, secundâ medio, rhombeâ utrâque emarginatâ costali, alterâque ultimâ duplo minore juxta apicem, quæ subinde desinet in puncto didymo nigro.

β. Magis cinerea, fascia medio completa, sed valde attenuata marginem tenuiorem versus, et in centro cinerascente, puncto atro.

γ. Fascia medio completa, sed insolida, sive cinerea. Communicavit amicus ejus captor, T. G. Ingall. Tr. E. S.

δ. Alis saturatioribus, fascia medio completa cinerascente dolabriformi, extus solum emarginata, angustiore atque minus

nus sinuata quam in cæteris. Forte distincta. Exemplarium unicum tantum vidi.

costovata. 54. P. (The short-barred Carpet) alis cinereis basi, fasciisque duabus abbreviatis costalibus subovalibus fuscis.

Phalæna costovata. Prod. Lep. Brit. 25. 9.

HABITAT apud nos valde infrequens, Imago f. Mai. Jun. Sepibus.

EXPANSIO alarum, 1 unc. 1 lin.

DESCRIPTIO. Priore valde distincta, at simillima, differt fasciâ costali medio nunquam trapeziformi vel rhombeâ sed magis ovali.

OBS. Valde variat, fascia medio subinde fere evanescit a costâ, maculâ parvâ medio alæ relictâ; sed interdum continuata est interruptè, vel rarissime sine interruptione, usque ad marginem tenuiorem.

propugnata. 55. P. (The flame Carpet) alis cinereis fascia medio rubra, marginata utraque striga geminata fusca.

Phalæna propugnata. Fab. Ent. Syst. 3. 188. 214.

Phalæna Geometra Propugnata. Hüb. Schmet. Geom. 55. 286.

Phalæna lynceata. Don. Br. Ins. vol. 10. tab. 349? *figura inferior sine numero.*

HABITAT. Imago m. Jul. Lucis, at infrequens.

EXPANSIO alarum 11-12 lin.

DESCRIPTIO. Alæ anticæ fasciâ basi angustâ rubrâ, ut in variis hujus sectionis: secundâ latâ medio, extus costam versus, parum productâ et marginatâ, seu potius strigis duabus medio, geminatis fuscis rubro colore interjecto.

β. Major, fasciis minus rubris.

γ. Fasciâ medio, longissime angustiore. Forte species distincta.

In Musæo J. Hatchett.

bifaciata. 56. P. (The double-barred Rivulet) alis cinereis, fascia obliqua subrecta, macula postica, alteraque apicis, fuscis, didymatis.

HABITAT, apud nos infrequentissime. Exemplarium unicum solum vidi.

EXPANSIO alarum 11 lin.

DESCRIPTIO. Alæ anticæ fasciis duabus obliquis contiguis, exteriore paulo pone medium, extus parum productim sinuatâ. Pone has costam versus, macula fusca fere didyma ut in *G.* didymaria, alteraque minore apicis etiam geminata. Posticæ cinerascentes.

P. (The

P. (The single-barred Rivulet) alis griseo-fuscis, fascia medio fusca; macula postica, alteraque apicis didymatis fuscis. *unifasciata.* 57.

HABITAT apud nos valde infrequens. In Musæis duobus solum vidi. Imago i. Aug. sylvaticis prope Westerham in Cantio.

EXPANSIO alarum 11 lin.

DESCRIPTIO. Priori nimis affinis, at differt saturatiore colore, et fasciâ medio alarum anticarum tantum unicâ interne magis incurvatâ costam versus, et adnatâ externe, ad rivulam angustam obsoletam subinterruptam albam, quæ vix conspicua est in priore.

P. (The Rivulet) alis fulvo-fuscis, fusco undatim substrigatis, rivulaque undata conspicua alba pone medium. *Alchemillata.* 58.

Phalæna alchemillata. Fab. Ent. Syst. 3. 194. 236.

Phalæna Geometra Alchimillata. Lin. Faun. Suec. 1282.

Geometra Alchimillata. Hüb. Schmet. 50. 261.

HABITAT, Imago m. Jun. Dumetis, at infrequens.

EXPANSIO alarum 1 unc. 1 lin.

DESCRIPTIO. Pone medium anticarum alarum, fascia angusta sinuata alba, in qua striga undulata fuscescens; et inter fasciam et marginem posticum striga tenuissima obsoleta ex arcubus albis concatenatis: atque in ipso apice lineola ordinaria obliqua obsoleta fusca. Posticæ pallide fuscæ fasciâ posticâ albidâ subcrenatâ.

P. (The middle Rivulet) alis fuscis, fascia medio, angusta sinuata saturatiore, ante rivulam angustam obsoletam sinuatam albam. *rivulata.* 59.

Geometra Rivulata. Hüb. Schmet. Geom. 50. 259.

HABITAT in Com. Norf. Exemplarium unicum solum vidi. Imago f. Jul. volat.

EXPANSIO alarum 11 lin.

DESCRIPTIO. Præcedente minor at simillima, sed sufficienter differt in structura fasciarum, characteribusque supradictis. Striga postica alba præcedentis, fere omnino obliterata est. Posticæ fuscæ, puncto ordinario medio, saturatiore, fasciâque obsoletâ pone medium pallidiore, sed vix albidâ.

P. (The small Rivulet) alis fuscis rivulis tribus venustis niveis. *nassata.* 60.

Phalæna nassata. Fab. Ent. Syst. 3. 204. 278.

Phalæna Geometra nassata. Villars Ent. Syst. 4. 512.

HABITAT, Imago m. Jun. Sylvaticis rarius.

EXPANSIO alarum 10 lin.

DESCRIPTIO. Alæ anticæ fuscæ, strigâ rectâ interruptâ niveâ ante; secundâ sinuatâ fasciæformi pone medium strigam fuscam undulatam includente: strigâque tertiâ tenuissimâ inter ultimam et marginem posticum, ex arcubus niveis concatenatis. Posticæ fuscæ fasciâ posticâ fuscescente. Præcedentibus minor at persimilis.

albulata. 61. P. (The grass Rivulet) alis anticis fasciis griseo-rufescentibus albisque alternis, strigaque alba undulata communi in fimbria griseo-rufescente.

Phalæna albulata. Fab. Ent. Syst. 3. 204. 277.

Geometra Albulata. Hüb. Schmet. Geom. 50. 257.

HABITAT. Imago i. Aug. in Pascuis at infrequens.

EXPANSIO alarum 10 lin.

DESCRIPTIO. Alæ anticæ fasciis angustis, obsoletis strigisque subundulatis albis, griseo-rufescentibusque. Limbus posticus griseo-rufescens, strigâ undulatâ subcommuni albâ. Posticæ fuscescentes fasciâ angustâ albicante pone medium.

4. LIMBO-NOTATÆ. Alis albissimis rarissime flavis, basi subbinde, limbo semper nigro-fasciatis.

hastata. 62. P. (The Argent and Sable) alis albissimis, faseiis duabus macularibus, limboque communiter atris.

Phalæna hastata. Fab. Ent. Syst. 3. 182. 192.

Phalæna Geometra hastata. Lin. Faun. Suec. 1276.

Geometra Hastata. Hüb. Schmet. Geom. 49. 256.

HABITAT Infrequens, Imago i. Jun. Sylvaticis, subinde volatu diurno.

EXPANSIO alarum 1 unc. 6 lin.

DESCRIPTIO. Phalænæ tristatæ primo intuitu similis est, at longe differt magnitudine fere triplo majore, et in fasciis nec integris continuis, sed macularibus interruptis. Prima fascia basi, secunda medio, spatio angusto albo solum separata. Inter fasciam secundam et limbum posticum striga communis punctorum atrorum. Limbus posticus in singula ala undulatim ater strigâ abbreviatâ flexuosâ, (vel in posticis puncto costali) hastâ conspicuâ medio, punctisque duobus anguli ani albis.

β. Alis absque striga punctorum atrorum.

procellata. 63. P. (The chalk Carpet) alis niveis basi, fascia abbreviata costali, limboque fuscis.

Phalæna

Phalæna procellata. Fab. Ent. Syst. 3. 185. 201.
Geometra Procellata. Hüb. Schmet. Geom. 48. 251.
HABITAT, Imago, f. Jul. Sepibus Cretaceis, at infrequens.
EXPANSIO alarum 1 unc. 6 lin.
DESCRIPTIO. Caput et thorax nigra. Alæ anticæ fasciâ basi fuscâ, secundâ medio, costali rhombeâ sæpius desinente in strigas varias obsoletas undulatas usque ad marginem tenuiorem, quæ validiores sunt apud marginem. Limbus etiam fuscus, maculâ medio, punctisque 5-6 albis, ordine. Posticæ niveæ strigis ordinariis fuscescentibus, fimbriâque angustâ fuscâ.

P. (The beautiful Carpet.) alis albis, basi piceo-nigris, fimbriaque communi nigra, plumbea, albaque varia. *albicillata.* 64.
Phalæna albicillata. Fab. Ent. Syst. 3. 182. 190.
Phalæna Geometra albicillata. Lin. Faun. Suec. 1278.
Geometra Albicillata. Hüb. Schmet. Geom. 15. 76.
HABITAT. Imago f. Jun. Sylvis, at valde infrequens prope Londinum: sed frequentior in Com. Norf.
EXPANSIO alarum 1 unc. 4-5 lin.
DESCRIPTIO. Venusta species. Caput, thorax, abdominis basis et barba nigra. Alæ anticæ albæ fasciâ latâ sinuatâ basi subpiceâ, plumbeo strigatâ: maculâ magnâ fere trigonâ costali juxta apicem nigrâ, quæ exserit strigam concinnam undulatam nodulosam atram terminantem in maculam parvam atram marginis tenuioris. Pone hanc limbus varie albescit, plumbescit, fuscescit, ad finem. Posticæ niveæ fimbriâ fuscâ, albido parum interruptâ, pone strigam concinnam undulatam subnodulosam nigram.

P. (The scorched Carpet) alis albis, fascia basi alteraque postica sinuata crenata fulvo-nigris adustatis. *adustata.* 65.
Phalæna adustata. Fab. Ent. Syst. 3. 187. 210.
Geometra Adustata. Hüb. Schmet. Geom. 15. 75.
HABITAT. Imago f. Jun. f. Aug. Sepibus at infrequens.
EXPANSIO alarum 1 unc. 1 lin.
DESCRIPTIO. Caput et thorax fusca. Alæ anticæ fasciâ basi nigrâ rotundatâ vel fulvo-nigrâ quasi adustatâ, alterâque in posticâ parte, sinuatâ extus crenatâ. Pone hanc alæ nigro fuscove notatæ, ordine punctorum concinnorum atrorum marginali. Posticæ albidæ, nebulis sive atomis anticis nigris; strigis fasciâque insolidâ pone medium fuscescentibus; ciliis albis.

P. (The clouded Border) alis albis, limbo omni, costa posticarum excepta, nigro. *marginata.* 66.

Phalæna marginata. Fab. Ent. Syst. 3. 180. 182.
Phalæna Geometra marginata. Lin. Faun. Suec. 1279.
Geometra Marginaria. Hüb. Schmet. Geom. 15. 79.
Geometra Navaria. Hüb. Schmet. Geom. 15. 80.
HABITAT. Imago Mai. Jul. Dumetis, &c. vulgaris.
EXPANSIO alarum 1 unc. 1 lin.
DESCRIPTIO. Species variabilis. Caput, thorax et abdomen nigra. Costa anticarum alarum late nigra, at albo interrupta medio, et juxta apicem. In medio alarum fascia communis valde interrupta nigra. Limbus posticus late communiter et sinuatim etiam niger. Cilia omnia itidem nigra.
β. Alis omnibus absque fascia interrupta in medio.
γ. Alis albidis corporeque fusco, tincturâ fulvedinis; cæteris ut in β, at limbo fusco forte angustiore.
Geometra Pollutata. Hüb. Schmet. Geom. 79. 77.

rubiginata. 67. P. (The blue-bordered Carpet) alis niveis, basi, fasciaque interrupta medio, fulvo fuscoque variis: limbo omni postico plumbeo, striga albicante.
Phalæna rubiginata. Fab. Ent. Syst. 3. 186. 208.
Geometra Rubiginata. Hüb. Schmet. Geom. 48. 250.
Phalæna abbreviata. Marsh. M. S.—et Prod. Lep. Brit. 25. 10.
HABITAT. Imago f. Jun. f. Aug. Sylvaticis, frequens, at localiter.
EXPANSIO alarum 11 lin.—1 unc. 1 lin.
DESCRIPTIO. Variat.
α. Alæ anticæ fasciâ basi, rubro-fulvâ: secundâ medio, irregulari interruptâ et valde attenuatâ marginem tenuiorem versus, puncto atro ordinario centrali. Fimbria plumbea; communis est, et gerit in medio strigam obsoletam, ex arcubus albidis concatenatis. Posticæ niveæ fimbriâ plumbescente, interdum evanescente, punctoque medio ordinario fusco.
β. Fascia medio anticarum abbreviata costali fere rhombea.

trigonata. 68. P. (The small Blue-border) alis omnibus albis, fascia cinerascente basi, alteraque medio, limboque omni postico cinereis.
Phalæna trigonata. Prod. Lep. Brit. 25. 18.
HABITAT. Imago i. Aug. Sepibus apud Westerham at rarissime.
Exemplarium unum solum vidi.
EXPANSIO alarum 9 lin.
DESCRIPTIO. Præcedenti nimis affinis et forte mera varietas, at minor, fasciâ medio alarum anticarum nec interruptâ, sed quasi costali subrhombeâ cinereâ puncto atro subtrigono,

gono, et desinente in strigas obsoletas fuscescentes sive cinereas, usque ad marginem tenuiorem. Limbus fere ut in priore.

5. OBLIQUATÆ. Alis fuscis vel griseis, fascia una alterave valde obliqua, lineolaque obliqua apicis fusca.

P. (The dark Umber) alis fusco-castaneis, fascia obliqua medio fusca, utraque subtus costam angulatim producta. *Rhamnata.* 69.

Phalæna Rhamnata. Fab. Ent. Syst. 3. 168. 140.

Geometra Rhamnata. Hüb. Schmet. Geom. 52. 271.

HABITAT. Imago Sepibus cretaceis, f. Mai. at infrequens.

EXPANSIO alarum 1 unc. 6-7 lin.

DESCRIPTIO. Posticæ alæ primoribus similes, at crenatæ, strigâ pone medium fuscâ, et angulum ani versus incurvatim geniculatâ; strigâque secundâ obsoletissimâ pallescente ad marginem posticum.

P. (The Fern) alis omnibus griseo-rufescentibus, subnebulosis, fascia lata communi obliqua obsoletissima ex strigis evanescentibus saturatioribus. *tersata.* 70.

Geometra Tersata. Hüb. Schmet. Geom. 52. 268.

HABITAT. Imago f. Mai. Sepibus cretaceis, ubi Pteris aquilina crescit.

EXPANSIO alarum 1 unc. 4-5 lin.

DESCRIPTIO. Affinis P. Rhamnatæ, at longe distincta. Postice alæ pallidiores antice, et fusco magis strigatæ, quam marginem versus.

OBS. Ordo lineolarum subconfluentium nigrarum, exstat in ipso margine postico, omnibus alis.

P. (The Streak) alis subovalibus, griseis, varie nebulosis, stria pallida subtus costam, a basi usque per apicem. *Spartiata.* 71.

Phalæna spartiata. Fab. Ent. Syst. 3. 181. 188.

Geometra Spartiata. Hüb. Schmet. Geom. 36. 187.

Phalæna Geometra Spartiata. Fuesly Arch. tab. 11. *fig. optimæ.*

HABITAT, Larva in Spartio scopario. Imago f. Oct. Spartiosis.

EXPANSIO alarum 1 unc. 4-5 lin.

DESCRIPTIO. Maculæ tres ovales obsoletæ obliquè transversæ fuscæ, extant in alis anticis; prima costalis major, secunda in medio, tertia in margine tenuiori magis basin versus quam cæteris. Prope marginem posticum alarum superiorum,

superiorum, fasciola obsoleta saturior albo antice marginata. Posticæ elongatim obovatæ fuscæ immaculatæ.

vitalbata. 72. P. (The small waved Umber) alis griseo-rufis fascia lata vittæformi perfusca a medio marginis tenuioris usque ad apicem.

Geometra Vitalbata. Hüb. Schmet. Geom. 22. 269.

HABITAT. Imago f. Mai Sepibus cretaceis, at infrequens.

EXPANSIO alarum 1 unc. 4 lin.

DESCRIPTIO. Fascia anticarum alarum subinde subinterrupta est: desinet in margine postico paulo subtus apicem. Posticæ basi nigræ, sed marginem versus griseæ, strigatim fasciatæ.

lignata. 73. P. (The oblique Carpet) alis griseis, strigis saturatioribus; fasciis duabus angustis obliquis fuscis, antica costam versus cinerea puncto atro.

Geometra Lignata. Hüb. Schmet. Geom. 52. 269.

Geometra areolaria. Prod. Lep. Brit. 23. 55.

HABITAT. Imago Paludosis, at valde infrequens, f. Aug.

EXPANSIO alarum 1 unc.—1 unc. 1 lin.

DESCRIPTIO. Antennæ maris paululum pectinatæ. Alæ anticæ acutæ, fasciâ primâ paulo ante medium, fuscâ at costam versus pallidiore puncto ordinario atro subocellari, secundâ longe pone medium, a margine tenuiore ad apicem ductâ, et ex strigis quatuor subconfluentibus compositâ. Margo omnis posticus concinne et crebre fusco punctatus. Posticæ griseæ strigis crebris saturatioribus fuscisque.

angustata. 74. * P. (The narrow-barred Carpet) alis griseo-fuscis, fascia obliqua angusta fusca medio, puncto ordinario ocellari atro.

HABITAT in Anglia rarissime. D. Francillon: et etiam in Americæ Georgia.

EXPANSIO alarum 11 lin.

DESCRIPTIO. Alæ rufo-fuscæ vix nebulosæ fasciâ medio obsolete crenatâ, costam versus sensim incrassatâ, puncto medio ordinario ocellari, iride albida, pupilla atra. Posticæ fere ut in priore, at magis fuscæ. Margo posticus omnium etiam fusco-punctatus at punctis longe obsoletioribus.

lineolata. 75. * P. (The Oblique-striped) alis plumbeo-cinerascentibus strigis variis saturatioribus, fasciolisque duabus medio, griseis, albo marginatis, obliquis.

Phalæna Geometra Lineolata. Hüb. Beit. 2. 2. 4. V.

Geometra Lineolata. Hüb. Schmet. Geom. 60. 311.

HABITAT in Collinis cretaceis sterilibus prope Lewis Com. Sussex.

Sussex. subcopiosè. Communicavit amicus ejus captor R. Scales.

EXPANSIO alarum 11 lin.

DESCRIPTIO. Fasciolæ strigæque alarum anticarum rectim obliquæ. Inter fasciolas medio alæ costam versus punctum ordinarium fuscum. Lineola tenuis fusca obliqua apicis etiam exstat ut plus minus, in omnibus hujus sectionis. Posticæ cinereo plumbescentes, strigis numerosis saturatioribus pallidioribusque, angulum ani versus geniculatim incurvatis.

OBS. *Geometra Polygrammata. Hüb. Schmet. Geom.* 54. 277. forte eadem est.

6. FLAVATÆ. Alis semper plus minus flavis, vel flavicantibus, strigis, fasciis, maculisve saturatioribus.

P. (The Spinach) alis flavo fulvoque variis, strigis tribus angulatis, lineolaque obliqua apicis fusco-fulvis. *Spinaciata.* 76.

Phalæna Spinachiata. Prod. Lep. Brit. 26. 40.

Geometra Marmorata. Hüb. Schmet. Geom. 54. 279. *nec Fab. Ent. Syst.*

HABITAT. Imago Hortis f. Jun. certis at indeterminatis annis frequens.

EXPANSIO alarum 1 unc. 4-5 lin.

DESCRIPTIO. Striga prima alarum, prope basin, secunda medio, tertia pone medium, omnes extus fere rectangulatæ. Cilia omnia flava, ordine macularum fuscarum distantium et distinctissimarum. Posticæ longe pallidiores immaculatæ.

P. (The barred Straw) alis flavis, strigis tribus angulatis, striga obsoleta macularum, lineolaque obliqua apicis, fulvo-fuscis. *Populata.* 77.

Phalæna Geometra Populata. Lin. Faun. Suec. 1266?

Phalæna Populata. Fab. Ent. Syst. 3. 176. 168?

Phalæna pyraliata. Fab. Ent. Syst. 3. 176. 169.

Geometra Pyraliata. Hüb. Schmet. Geom. 58. 302.

Phalæna Populata. Prod. Lep. Brit. 26. 38.

HABITAT. Imago. f. Jul. Ripis. at rarius.

EXPANSIO alarum 1 unc. 3-4 lin.

DESCRIPTIO. Facies Pyralidis. Præcedenti valde affinis, at distincta; nempe alæ angustiores, strigæ magis anticæ, magisque approximatæ, et minus angulatæ, atque paululum undulatæ.

undulatæ. Præterea longe differt in striga macularum obsoletarum inter strigam tertiam et marginem posticum: denique in ciliis ustulatis, nec fusco venuste maculatis. Posticæ ex albido stramineæ.

OBS. This species is considered as the Populata of Linnæus, by all the Entomologists I am acquainted with: but it by no means accords with his description of that species in Faun. Suec. Some years since I recollect seeing a Phalæna taken near London, which would have better agreed; but it is not now extant. The Populata of Hübner (a distinct species) in some respects agrees better with the Linnæan definition, than the present article.

comitata. 78. P. (The dark Spinach) alis anticis subflavis, fulvo subnebulosis, fascia medio geminata sinuata grisea puncto ordinario atro, lineolaque apicis fusca.

Phalæna comitata. Fab. Ent. Syst. 3. 176. 170.

Phalæna Geometra comitata. Lin. Faun. Suec. 1264, *et ejus. Mus.*

Phalæna Geometra dotata. Lin. Mus.

Geometra Chenopodiata. Hüb. Schmet. Geom. 58. 299. *Nec Lin. vel Fab.*

HABITAT. Imago. f. Jul. Ripis, at infrequens.

EXPANSIO alarum 1 unc. 4-5 lin.

DESCRIPTIO. Alæ anticæ basi strigâ geminatâ subgriseâ, fasciâ medio, latâ insolidâ, seu geminatâ griseâ, utraque sinuatâ. Posticæ stramineo albicantes. Cilia omnia fusco maculata.

OBS. This is the P. G. comitata of the Linnæan Cabinet; and P. G. dotata, of the same collection, is no other than a dark specimen of the same species, rather larger than it usually appears. They are both ticketed by Linnæus himself.

testata. 79. P. (The Chevron) alis griseo-fulvis, fascia lata medio, saturatiore extus albo marginata, lineolaque obliqua apicis alba ante maculam marginalem hæmisphericam fulvam.

Phalæna testata. Lin. Faun. Suec. 1262. *nec. Fab. Ent. Syst.*

Geometra Achatinata. Hüb. Schmet. Geom. 58. 301.

Geometra testaceata. Prod. Lep. Brit. 26. 47. *ex errore plumæ.*

HABITAT. Imago i. Mai. i. Sept. Dumetis at infrequens.

EXPANSIO alarum 1 unc. 4-5 lin.

DESCRIPTIO. Alæ anticæ ante medium strigâ tenui obsoletâ rectangulatâ fulvâ, fasciâ medio, latâ etiam subrectangulatâ, extus albido marginatâ et ad angulum subcrenatâ. Posticæ albicantes margine vix saturatiore.

P. (The

P. (The pinion-spotted Yellow) alis sulphureis, costa basi nigro irrorata maculisque quatuor æquidistantibus atris. *quadrimaculata.* 80.
Phalæna quadrimaculata. Trans. Entom. Soc. Lond. pars 2. cum icone.
HABITAT in Anglia rarissime. Imago Apr. Sylvaticis. In Musæo ejus captor D. Hatchett. ♀ †
DESCRIPTIO. Magnitudo et statura sequentis, at distinctissima. Antennæ nigræ setaceæ. Alæ posticæ saturatiores quam anticis, luteæ immaculatæ.

P. (The speckled Yellow) alis fulvis maculis numerosis sparsis fuscis. *maculata.* 81.
Phalæna maculata. Fab. Ent. Syst. 3. 196. 244.
Phalæna Geometra macularia. Lin. Syst. Nat. 2. 862. 213.
Geometra Maculata. Hüb. Schmet. Geom. 25. 135.
HABITAT. Imago f. Mai. Sylvaticis volatu diurno vaccillante.
EXPANSIO alarum 1 unc. 1-3 lin.
DESCRIPTIO. Alæ anticæ basi fusco punctatim subatomosæ. Margo posticus omnis fuscus, fulvo plus minus interruptus, at magis in posticis.
β. Alis omnibus flavis, nec fulvis, fusco sparsim maculatis.

P. (The yellow Shell) alis omnibus luteis, undulis obsoletis numerosis obscurioribus fasciaque duplici medio anticarum, fusca externe sinuata alboque marginata. *bilineata.* 82.
Phalæna bilineata. Fab. Ent. Syst. 3. 186. 206.
Phalæna Geometra bilineata. Lin. Faun. Suec. 1284.
Geometra Bilineata. Hüb. Schmet. Geom. 51. 284.
HABITAT apud nos vulgatissima. Imago f. Jun. et fere per æstatem.
EXPANSIO alarum 1 unc.—1 unc. 4 lin.
DESCRIPTIO. Alæ posticæ magis fulvæ, undulis numerosis saturatioribus ut in anticis, at absque fasciâ.
β. Alis omnibus absque fascia fusca duplici.
γ. Fere duplo minor, absque fascia fusca duplici. Varietas vulgatissima apud Chelseiam, ubi α, et β nunquam occurrunt.

P. (The dingy Shell) alis antice sordide lutescentibus, strigis duabus posticis, limboque late fuscis: posticis fuscis. *heparata.* 83.
Geometra Heparata. Hüb. Schmet. 11. 58.
HABITAT apud nos, et etiam in Norfolcia teste Rev. J. Burrell; at valde infrequens. Imago m. Jun. Nemoribus.
EXPANSIO alarum 1 unc.—1 unc. 1 lin.

DESCRIPTIO.

DESCRIPTIO. Præcedente minor, rarior, longissime obsoletior. Alæ anticæ strigis duabus contiguis pone medium fuscis, costam versus parum undulatis; subinde plus minus obliteratis. Posticæ fuscæ. Cilia omnia lutea, fusco venuste maculata.

petrata. 84.

P. (The brown Silver-line) alis acutis rufescentibus, strigis tribus oblique rectis æquidistantibus albicantibus, intus fusco adnatis.

Geometra Petraria. Hüb. Schmet. Geom. 21. 113.

HABITAT. Apud Coomb Wood locis Pteridosis. Imago f. Mai.

EXPANSIO alarum 1 unc. 3-4 lin.

DESCRIPTIO. Alæ anticæ strigâ primâ anticâ; secundâ pone medium, et inter has punctum ordinarium fuscum; tertiâ strigâ inter ultimam et marginem posticum cæteris obscuriore. Posticæ albidæ. Cilia omnia immaculata.

OBS. This species but ill associates with the others of this section: and would, perhaps, better arrange amongst the *Strigatæ*. Hübner places it with the *Waves*.

6. BICOLORATÆ. Coloribus solum duobus, volatu sæpe diurno.

Chærophyllata. 85.

P. (The looping Chimney Sweeper) atra, apicibus rotundatis alarum superiorum, solum tenue albis.

Phalæna Chærophyllata. Fab. Ent. Syst. 3. 184. 200.

Phalæna Geometra atrata. Lin. Faun. Suec. 1274.

Geometra Chærophyllata. Hüb. Schmet. Geom. 38. 197.

HABITAT. Imago i. Junio Sylvaticis, Graminosis. Imago i. Jun.

EXPANSIO alarum 1 unc. 1-2 lin.

OBS. Alæ sedentis erectæ ut in Papilionibus. Volat per diem ineleganter.

albicinctata. 86. * †

P. (The white-lined Black) alis nigris, singulis puncto medio, strigaque juxta marginem posticum communi albis.

HABITAT in Anglia rarissime. In Musæo J. Hatchett. Olim prope Peckham capta a D. Pickersgill.

EXPANSIO alarum

OBS. Statura et magnitudo G. Achimillatæ.

P. (The

P. (The gold Four-spot) tota atra, fascia lata postica aureo-fulva communi, margines vix attingente. *equestrata.* 87.
Phalæna equestrata. Fab. Ent. Syst. 3. 179. 178.
Geometra Alphinata. Hüb. Schmet. Geom. 38. 196.
HABITAT localiter in Anglia. In Cantio prope Holywell D. Plasted.
EXPANSIO alarum 1 unc.

P. (The drab Looper) tota sordide subfulva, corpore pedibusque saturatioribus, oculis nigris, alis rotundatis. *Euphorbiata.* 88.
Phalæna Euphorbiata. Fab. Ent. Syst. 3. 197. 246.
Phalæna Geometra Euphorbiata. Villars. Ent. 4. 509.
Phalæna Geometra sordiata. Villars. Ent. 2. 249. 537.—*atque Mus. Lin.*
Phalæna Geometra Euphorbiata. Hüb. Schmet. Geom. 15. 78.
Geometra Euphorbiata. Wien. Verz. 116. 9.
Phalæna Geometra unicolorata. Hüb. Beit. 1. 2. 3. L.
Phalæna Euphorbiata. Donov. Br. Ins. 5. *t.* 153.—*et inde Prod. Lep. Brit.*
HABITAT. Imago f. Mai. Nemoribus, at infrequens.
EXPANSIO alarum 9 lin.
OBS. P. sordiata, and P. Euphorbiata, appear to form but one good species, which, however, varies in being more or less brown, or fulvous.

8. ANGULATÆ. Alis angulatis, strigis saturatioribus.

P. (The white Spot) Alis rufescentibus angulatis dentatis, strigis tribus obsoletis, punctoque apicem versus albo. *unipunctata.* 89.
HABITAT in Anglia rarissime. Exemplaria duo in Museo D. Francillon solum vidi.
EXPANSIO alarum
OBS. Magnitudo P. notatæ.
OBS. 2. This must not be confounded with Geometra Pennaria, to small females of which, its size and characters nearly answer: for it is a far slenderer and smaller species.

P. (The dingy Angled) alis subangulatis albidis, atomis numerosis fuscescentibus tectis, strigis subtribus obsoletissimis, limboque saturatioribus. *præatomata.* 90.
Geometra tristriaria. Fab. Ent. Syst. 3. 130. 6?
HABITAT in Anglia rarissime. D. Francillon.

EXPANSIO alarum
OBS. Statura et magnitudo præcedentis.

limbata. 91. P. (The bordered Checquer) alis omnibus angulatis pallidis ferrugineo reticulatis, fimbriaque lata ferruginea.
HABITAT in Anglia rarissime. D. Francillon.
EXPANSIO alarum
OBS. Magnitudo et statura G. vespertariæ.
OBS. Phalæna limbata aliorum est G. limbaria hujus opusculi.

liturata. 92. P. (The tawny-barred Angle) alis submarginatis cinereis, strigis tribus communibus sub-fuscis, ante fasciam communem fulvicantem.
Geometra Alternaria. Hüb. Schmet. Geom. 61. 314.
Geometra Lituraria. Hüb. Schmet. Geom. 11. 54.
Phalæna Geometra liturata. Lin. Faun. Suec. 1273.—nec Ph. liturata Fab.
Phalæna obscurata. Prod. Lep. Brit. 27. 52.
HABITAT prope Westerham Cantii. Imago Aug. Nemoribus. Exemplarium unicum mancum solum vidi.
EXPANSIO alarum 1 unc. 3 lin.
DESCRIPTIO. Antennæ setaceæ, ferrugineæ. Alæ anticæ maculâ majusculâ subfuscâ costali juxta apicem pone fasciam fulvicantem. Posticæ eroso-angulatæ.

notata. 93. P. (The Peacock Moth) alis atomoso-cinereis, fusco strigatis; anticis emarginatis, fasciculo postico punctorum atrorum.
Phalæna notata. Fab. Ent. Syst. 3. 171. 152.
Phalæna Geometra notata. Lin. Faun. Suec. 1258.
Geometra Notataria. Hüb. Schmet. Geom. 11. 53. *et iterum.* 61. 316.
HABITAT. Imago f. Mai. Betuletis, infrequens.
EXPANSIO alarum 1 unc. 3 lin.
DESCRIPTIO. Alæ omnes albæ, plus minus fusco atomosæ; anticæ emarginatæ, lunulâ atrâ sive ustulatâ, per ipsa cilia in emarginatura: maculis quatuor costalibus æquidistantibus rufis ultimâ longe majore interruptâ, ex quibus excurrunt quatuor strigæ communes cinereæ obsoletæ, ultima fasciæformis; et in fascia, loco stigmatis postici Noctuarum, puncta quinque confertissima atra, sive ustulata. Posticæ angulatim acutæ, puncto medio ordinario atro.

prænotata. 94. P. (The sharp-angled Peacock) alis atomosis cinereis, fusco strigatis, anticis emarginatis, litura fissa postica atra, posticis subcaudatis.

Geometra

Geometra Liturata. Hüb. Schmet. Geom. 61. 315.
HABITAT cum priore, at infrequens.
EXPANSIO alarum 1 unc. 1-3 lin.
DESCRIPTIO. Præcedenti simillima ut ovum ovo;—dignoscitur alis posticis magis productim angulatis, sive subcaudatis, maculâque posticâ anticarum majore, fissâ; nec ex punctis quinque minutissimis distinctis compositâ.

P. (The slender-striped Rufous) alis rufescentibus, strigis gracilibus saturatioribus. *subrufata.* 95.
HABITAT in Anglia rarissime. D. Francillon. *
OBS. Magnitudo P. notatæ. †
OBS. The edges of the acute upper wings seem to have been dentated or angled, but the specimen from whence this description was made, is too much injured to be certain of it.

P. (The scolop'd Double-line) alis omnibus pallide fulvis, strigis duabus sub-repandis punctoque interjecto fuscescentibus. *emarginata.* 96.
Phalæna emarginata. Fab. Ent. Syst. 3. 174. 160.
Phalæna Geometra emarginata. Lin. Faun. Suec. 1257.
Phalæna Geometra emarginata. Villars. Ent. 2. 333. 503, *atque etiam.*
Phalæna Geometra Demandata. Villars. Ent. 2. 335. 506.
Geometra Emarginataria. Hüb. Schmet. Geom. 20. 107.
HABITAT. Imago. f. Jul. Sylvaticis. Prope Coomb Wood frequens.
EXPANSIO alarum 11 lin.
DESCRIPTIO. Alæ anticæ strigâ primâ anticâ incurvâ; secundâ parum repandâ, communi, longe ultra medium; et inter has fasciolâ communi, punctoque ordinario medio subfuscescentibus. Striga obsoleta tertia repanda communis etiam exstat in ipso margine postico. Posticæ etiam puncto medio ordinario.

P. (The small Scolop) alis omnibus repandis rufis, striga antica anticarum incurva, duabusque posticis repandis communibus fuscis. *dimidiata.* 97.
Phalæna dimidiata. Prod. Lep. Brit. 27. 54. nec *Phalæna Geometra Dimidiata. Villars Ent.* 2. 335. 508, *quæ potius est varietas Geometræ Prunariæ, superdescriptæ.*
HABITAT, Imago f Aug. Sepibus, at infrequens.
EXPANSIO alarum 10 lin.
DESCRIPTIO. Simillima præcedenti, at duplo minor at minus frequens; alis magis repandis, magisque rufis; fasciolâ communi,

communi, punctoque pone strigam primam longe saturatioribus.

9. CLATHRATÆ. Alis albido-flavicantibus, nigro fuscove irregulariter reticulatis, seu quasi clathratis.

clathrata. 98. P. (The latticed Heath) alis omnibus flavicantibus; strigis anastomosantibus sinuatis inæquidistantibus fuscis, clathratis.

Phalæna Clathrata. Fab. Ent. Syst. 3. 183. 194.
Phalæna Geometra clathrata. Lin. Faun. Suec. 1275.
Geometra clathraria. Hüb. Schmet. Geom. 25. 112.

HABITAT. Imago. f. Mai. m. Jul. Agris Cantii copiosissime, volatu partim diurno, inelegante.

EXPANSIO alarum 1 unc.—1 unc. 2 lin.

DESCRIPTIO. Alæ omnes plus minus flavicantes, venis, strigisque validis subquatuor communibus, hinc, illinc anastomosantibus: ciliis maculis quadratis fuscis albisque alternis.

β. Alis albis fere absque tinctura flavedinis, characteribus ut in α.

radiata. 99. P. (The radiated Heath) alis omnibus albidis, venis, strigisque medio, tribus validis distinctis æquidistributis undulatis communibus.

HABITAT in Cantio at rarissime. Exemplaria duo solum vidi.

EXPANSIO alarum 1 unc. 2 lin.

DESCRIPTIO. Ultimæ simillima, at satis differt numero, positione, distinctioneque strigarum.

retęta. 100. P. (The netted Heath) alis albidis strigis tribus validissimis, sive fasciolis angustis, subundulatis distinctis æquidistantibus fuscis, communibus.

HABITAT cum penultima, f. Mai. Agris Cantii, at rarissime. Exemplarium unicum solum vidi.

EXPANSIO alarum 1 unc. 2 lin.

DESCRIPTIO. Præcedentibus simillima, alis strigâ primâ ante, secundâ in, tertiâ pone medium, sed magis marginem posticum versus quam in ultima.

OBS. I have a knowledge of some exotic species of this section, distinct from the above.

10. UNDA-

10. UNDATÆ. Albis albidis rarius cinereo-fuscescentibus, vel luteis, semper strigis plus minus undatis: singulis plerumque puncto medio ordinario fusco.

P. (The ribband Wave) alis cinerascentibus, fascia fusca, strigaque subinterrupta (ipsius marginis postici, ante aliam ciliarem punctorum nigrorum,) communibus. *aversata.* 101.

Phalæna aversata. Fab. Ent. Syst. 3. 183. 196.

Phalæna Geometra aversata. Lin. Faun. Suec. 1286.

Geometra Aversaria. Hüb. Schmet. Geom. 11. 56.

HABITAT. Imago m. Jul. i. Sept. Nemoribus.

EXPANSIO alarum 1 unc. 2-3 lin.

DESCRIPTIO. Alæ anticæ albido-cinerascentes, lente atomis innumeris fuscis, strigâ subfuscâ evanescente ante, alterâque communi pone fasciam posticam latam subundulatam fuscam communem: tertiâque ciliari ut in charactere specifico, punctis pone strigam interdum ei adnatis, et subinde omnino obliteratis.

β. Alis omnibus rufescentibus, cæteris ut in α.

P. (The false ribband Wave) alis cinerascentibus, strigis tribus æquidistantibus subundulatis fuscis, ultimis duabus aliaque ciliari punctorum communibus. *remutata.* 102.

Phalæna remutata. Fab. Ent. Syst. 3. 203. 174.

Phalæna Geometra remutata. Lin. Faun. Suec. 1289.

HABITAT. Imago i. Sept. Nemoribus, vix infrequens.

EXPANSIO alarum 1 unc. 2-3 lin.

DESCRIPTIO. Præcedente solum differt in absentia fasciæ fuscæ quæ occupat spatium inter strigam secundam et tertiam alarum superiorum: strigâ ipso margine postico exacte ut in illa.

β. Alis omnibus rufescentibus, cæteris ut in α.

γ. Minor, alis rufis, cæteris ut in α.

P. (The plain Wave) alis pallide griseo-fuscescentibus, strigis tribus æquidistantibus saturatioribus evanescentibus, postica interdum obsolete geminata, ciliis immaculatis. *inornata.* 103.

HABITAT fere rarissime, Imago Sylvaticis f. Jul.

EXPANSIO alarum 1 unc. 2 lin.

DESCRIPTIO. Ultimæ simillima, et difficillime distinguenda; tamen alia. Nempe paululum minor, et fere absque atomis minutissimis fuscis, puncto atro ordinario hujus sectionis saturatiore in singula ala, et magis conspicuo. Striga tertia

tia minus undulata sive flexa, ad costam anticarum. Denique margo omnis ciliaris, immaculatus, absque striga vel punctis.

incanata. 104. P. (The Mullein Wave) alis grisco-albidis, fusco-pulverulentibus puncto pone medium, strigisque obscuris undatis fuscis.

Phalæna Geometra incanata. Lin. Faun. Suec. 1287.

Geometra Immutaria. Hüb. Schmet. Geom. 20. 108.

HABITAT in Norfolcia. Imago apud Verbascos, autumno. J. Hooker.

Communicavit, (sed nec primo) Rev. J. Burrell, qui etiam cepit in Com. Norf.

EXPANSIO alarum 1 unc. 1 lin.

DESCRIPTIO. Alæ pulverulentes, vel atomosæ, strigis obscuris, saturatioribus, punctoque medio fusco. Striga prima, arcuata, subinde deest; secunda repanda, pone punctum, et quasi punctaris: tertia inter ultimam et marginem posticum: tunc ordo communis valde obsoletus, macularum fuscarum, rotundarum: et denique in ipso margine, striga alia, punctulorum, subtriangulatorum, atrorum.

contiguata. 105. P. (The tooth-striped Wave) alis albidis subpulverulentibus, puncto pone medium, strigisque communibus denticulatis fuscis.

Geometra Contiguaria. Hüb. Schmet. Geom. 20. 105.

HABITAT apud nos rarissime.

Communicavit amicus, ejus captor, J. T. Swainson, F. L. S.

EXPANSIO alarum 1 unc. 1 lin.

DESCRIPTIO. Præcedenti valde affinis, alis albidioribus, strigis validioribus, magisque denticulatis.

fuliginata. 106. P. (The dingy Wave) alis omnibus fuliginoso-fuscis, striga anticarum obsoleta pone medium saturatiore.

HABITAT in Anglia rarissime. D. Francillon.

EXPANSIO alarum

OBS. Statura sequentis, at major, et longissime saturatior.

strigilata. 107. P. (The subangled Wave) alis albidis, posticis subangulatis, atomoso-cinerascentibus, strigis duabus posticis communibus obsoletissimis evanescentibus.

Geometra Strigilaria. Hüb. Schmet. Geom. 20, 109? *nec Strigillata. Lin.*

Phalæna mediata. Fab. Ent. Syst. 3. 198. 252?

HABITAT, Imago i. Jul. Peridumetis cretaceis, at fere rarissime.

EXPANSIO

EXPANSIO alarum 1 unc. 1-2 lin.

DESCRIPTIO. Dignoscitur primo intuitu, alis parum cinerascentibus, posticis paululum subangulatis. Margo omnis ipse posticus strigâ tenuissimâ fuscâ subinterruptâ.

P. (The rosey Wave) alis roseo-albidis, atomis numerosis minutissimis fuscis, strigaque obliqua abbreviata communi fusca: posticis subangulatis. *subroseata.* 108.

HABITAT in Norfolciæ Graminosis marinis. Imago f. Jul. at rarissime. Exemplaria duo solum vidi. Communicavit ejus captor Rev. J. Burrell.

EXPANSIO alarum 1 unc.

DESCRIPTIO. Figura præcedentis at minor. Alæ anticæ strigâ cinereâ a medio marginis tenuioris oblique fere ad apicem ductâ, quæ etiam transit per posticas alas. Pone strigam anticarum puncta circiter quinque minutissima atra in ordine obliquo, quæ margines non approximant. Posticæ ad limbum strigâ unâ alterâve saturatiore evanescente.

P. (The pale cream Wave) alis albidis, striga antica saturatiore, duabusque aliis communibus validioribus. *lactata.* 109.

Phalæna nemorata. Prod. Lep. Brit. 27. 60 *nec Hybneri.*

HABITAT. Imago Nemoribus frequens, f. Mai.

EXPANSIO alarum 1 unc. 1-2 lin.

DESCRIPTIO. Alæ anticæ strigâ rectâ obliquâ ante, secundâ itidem obliquâ vix undatâ obsolete communi, pone punctum ordinarium in medio: tertiâ validiore, inter ultimam et marginem posticum, etiam communi, atque undatissimâ, et pone punctum ordinarium nigrum in alis posticis. Margo ipse posticus plerumque habet ordinem communem punctulorum minutissimorum nigrorum.

P. (The broad-striped cream-Wave) alis albidis medio strigis duabus validis communibus flexuosis saturatioribus. *sublactata.* 110.

HABITAT cum priore, at rarissime. Exemplarium unum solum vidi.

EXPANSIO alarum 1 unc. 2 lin.

DESCRIPTIO. Præcedenti nimis affinis, at strigis paucioribus, validioribus, atque diversim flexuosis, positisque. Pone strigam secundam, certo situ, striga alia geminata evanescens fere omnino obliterata.

P. (The cream Wave) alis floris lactis colore, strigis undulatis 3-4 communibus saturatioribus. *flos-lactata.* 111.

Geometra Remutata. Hüb. Schmet. Geom. 18. 98. *nec Lin. vel Fab. &c.*

HABITAT

HABITAT cum præcedentibus, vulgaris.
EXPANSIO alarum 1 unc. 1 lin.
DESCRIPTIO. Penultimâ solum colore differt, sed constans utroque sexu.

immutata. 112. P. (The lesser cream-Wave) alis maris, floris lactis colore, fœmineis albidioribus, strigis subquinque communibus lutescentibus.
Phalæna Geometra immutata. Lin. Faun. Suec. 1288.
Geometra Sylvestraria. Hüb. Schmet. Geom. 18. 97.
HABITAT in Com. Norf. Paludosis apud alnos.
EXPANSIO alarum 11 lin.
DESCRIPTIO. Prioribus minor, puncto ordinario atro, omnium alarum magis conspicuo. Strigæ minutim undulatæ numerosiores subæquidistributæ per alas, at posticæ subevanescentes. Cilia omnia sæpius nigro-punctata.

subsericeata. 113. P. (The satiny Wave) alis subsericeo-albidis tinctura virescente, strigis quinque saturatioribus undulatis æquidistantibus (prima excepta) communibus.
HABITAT in Cantii Sylvaticis fere rarissime.
EXPANSIO alarum 11 lin.
DESCRIPTIO. Præcedentis fere magnitudo, alis certo situ sericeo subnitentibus, certoque situ tinctura pallidissima virescente; absque puncto ordinario nigro; quæ notabilis est in hac sectione.

candidulata. 114. P. (The small white Wave) alis omnibus niveis, strigis numerosis communibus undatissimis inæquidistantibus griseis.
Geometra Candidaria. Hub. Schmet. Geom. 19. 101. nec Phalæna candidata. *Fab.*
Phalæna immutata. Fab. Ent. Syst. 3. 203. 273. *nec Lin.*
HABITAT. Imago f. Mai. Sylvaticis, vulgaris.
EXPANSIO alarum 10 lin.
DESCRIPTIO. Alarum strigæ fere exacte ut in sequente. Sed abunde discrepat in colore niveo nec luteo.

luteata. 115. P. (The small yellow Wave) alis omnibus saturate luteis, strigis numerosis communibus inæquidistantibus undatissimis rufo-luteis.
Phalæna luteata. Fab. Ent. Syst. 3. 199. 256.
Geometra Luteata. Hüb. Schmet. Geom. 19. 103.
Phalæna centrata. Fab. Ent. Syst. 3. 200. 258.
HABITAT, Imago Cantii Sylvaticis, at infrequens, f. Mai.
EXPANSIO alarum 10 lin.
DESCRIPTIO. Alæ anticæ strigis circiter septem inæquidistantibus,

tantibus, paucis sæpe per paria approximatis. Posticæ strigis solum quatuor. Omnes puncto ordinario fusco medio, costam versus.

P. (The dwarf Cream-wave) alis albido-lutescentibus, strigis duabus anticis, tribusque magis limbi communibus fuscescentibus. *osseata.* 116.

Geometra Ossearia. Hüb. Schmet. Geom. 19. 102.

HABITAT. Imago f. Jun? Sepibus.

EXPANSIO alarum 9 lin.

DESCRIPTIO. P. dilutatæ affinis, at minor, magis nitens et lutescens, sive ossis colore, strigis ad costam magis incrassatis. Punctum ordinarium fuscum, in omnibus alis, ordoque communis punctulorum nigrorum ipsius marginis postici.

OBS. My tutor in Entomology informs me that this is the Phalæna immutata of the Linnæan Cabinet, but it does not accord with the description of that insect in Fauna Suecica so well as the last species but three.

P. (The small fan-footed Wave) alis griseo-albidis, strigis duabus distantibus anticis, aliisque confertis limbi communibus saturatioribus. *dilutata.* 117.

Geometra Dilutaria. Hüb. Schmet. Geom. 19. 100.

HABITAT. Imago Sepibus frequens f. Aug.

EXPANSIO alarum 10-11 lin.

DESCRIPTIO. Alæ anticæ albidæ, tincturâ lutescente, strigâ primâ tenui subfuscâ repandâ ante medium, secundâ communi etiam repandâ vix ultra punctum ordinarium nigrum medio. Limbus communiter cinerascit, strigis alternis undulatis 4-5 albidis fuscescentibusque connatis, ordineque punctorum nigrorum in ipso margine postico. Posticæ puncto ordinario medio atro, notisque supradictis. Pedes postici singulariter barbati, fere ut in P. barbali Lin.

β. Limbo omni alarum perfusco, rivulâ seu strigâ undulatâ albidâ communi.

Phalæna decorata. Prod. Lep. Brit. 28. 68. *at vix Geometra Decoraria, Hübneri, et certe non P. decorata. Fab.*

P. (The small Dotted-wave) alis albido-cinerascentibus, strigis punctis maculisque fuscis. *lividata.* 118.

Phalæna Geometra lividata. Lin. Faun. Suec. 1285.—*nec Fab.*

Phalæna scutata. Fab. Ent. Syst. 3. 202. 271.

Geometra Scutularia. Hüb. Schmet. Geom. 14. 72.

HABITAT. Imago i. Jun? Sepibus frequens.

EXPANSIO alarum 10 lin.

DESCRIPTIO. Alæ albido-cinerascentes, lente atomis numerosis fuscis, maculis parvis tribus costalibus æquidistributis, a quibus strigæ tres fuscæ sæpius excurrunt, media obsoletior. Vix ultra tertiam maculæ parvæ 3-4 transversæ fuscæ albido parum cinctæ sed haud ocellares, marginem tenuiorem versus, quæ subinde desinent in strigam obsoletam albicantem usque ad costam. Ultra hæc limbus plus minus fuscescit. Posticæ sub-similes; omnes puncto medio ordinario fusco, margineque ipso postico concinne nigro punctato.

trigeminata. 119. P. (The treble Twin-spot) alis albido-lutescentibus, costa basi, fasciaque postica ex maculis tribus geminatis subconfluentibus nigris.

Geometra Scutularia. Hüb. Schmet. Geom. 14. 73.

HABITAT Imago f. Mai. Sepibus cretaceis.

EXPANSIO alarum 10 lin.

DESCRIPTIO. Alæ anticæ subinde strigis duabus anticis tenuissimis evanescentibus saturatioribus ante punctum ordinarium fuscum. Posticæ immaculatæ, vel subinde strigâ sub-posticâ saturatiore longe ultra punctum ordinarium nigrum. Margo omnis ciliaris ordine punctorum fuscorum.

OBS. Notwithstanding the great Lepidopterist Hübner figures this species and lividata under one name, they appear to be entirely distinct; because the latter is common in this neighbourhood: while the former is never seen in it, although equally common at Darent in Kent. Hübner's letter-press for the above I have not seen.

virgulata. 120. P. (The small Dusty-wave) alis longis, pulverulentim cinereis, strigis duabus obliquis, fimbriaque sub-nebulosa communi, saturatioribus.

Geometra Virgularia. Hüb. Schmet. Geom. 19. 104?

HABITAT Imago. f. Jul. Sepibus frequens.

EXPANSIO alarum 7-9 lin.

DESCRIPTIO. Alæ anticæ strigâ primâ, parum angulatâ ante, secundâque in medio communi. Limbus omnium alarum fuscescens nebulis parvis albicantibus nigrisque minutissimis.

β. Duplo minor, magisque nebulosa, absque strigis anterioribus anticarum.

OBS. Variety β, which I caught in Norfolk, is probably a distinct species, for the strigæ in the upper wings are obliterated, and it is materially smaller than our Middlesex specimens;

specimens; notwithstanding the Norfolk insects, and even the plants, are usually larger and finer than those of our neighbourhood.

11. LIMBO-UNDATÆ. Alis albis vel albidis, limbo vel postâ fusco plus minus eleganter notato.

P. (The large Lace-border) alis albido-lutescentibus, striga post medium evanescente, fimbriaque costam non attingente, ex maculis strigisque fuscis confluentibus. *limbo-undata.* 121.

HABITAT in Americæ Georgiâ: et etiam Angliâ D. Francillon.

EXPANSIO alarum 1 unc. 3-4 lin.

P. (The Lace-border) nivea oculis atris, alis vix nebulosis, fimbria sinuata eleganter communi, ex maculis albidis griseis fuscescentibusque connexis. *ornata.* 122.

Phalæna ornata. Fab. Ent. Syst. 3. 201. 262.
Geometra Ornataria. Hüb. Schmet. Geom. 14, 70.
Phalæna Geometra Paludata. Villars. Ent. 2. 355. 551.

EXPANSIO alarum 1 unc, 2 lin.

HABITAT. Imago m. Jul. Cretaceis.

EXPANSIO alarum

OBS. This beautiful and delicate species has usually been considered as the Phalæna paludata of Fabricius, which that great entomologist expressly says is a native of England: yet I greatly doubt whether this is the one he intended by that appellation; especially as it agrees well with the definition of his Ph. ornata. Wherefore it has been judged best to adopt the latter and most expressive name. With the paludata of Villars it nevertheless sufficiently coincides.

P. (The clouded Silver) alis niveis, anticis puncto, litura, fascia, maculaque nigris. *nubeculata.* 123.

Phalæna nubeculata. Marsh. M. S.——et Prod. Lep. Brit. 25. 13.
Phalæna punctata. Fab. Ent. Syst. 3. 197. 248.
Geometra Temeraria. Hüb. Schmet. Geom. 17. 91.

HABITAT. Imago f. Mai. Sylvaticis.

EXPANSIO alarum 1 unc. 3 lin.

DESCRIPTIO. Alæ anticæ puncto ordinario, medio, liturâ fere oppositâ marginis tenuioris, fasciâ posticâ costam non attingente,

attingente, maculâque marginis postici juxta apicem nigris; præterea strigâ ipsius marginis macularum atrarum. Posticæ niveæ, strigâ posticâ evanescente fuliginosâ. Cilia anticarum cinerea, posticarum nivea.

OBS. This can hardly be the Phalæna Geometra Nubecularia of Villars: but may be the punctata of Fabricius.

bimaculata. 124. P. (The white Pinion-spotted) alis omnibus niveis, singulis puncto ordinario medio; maculisque duabus costalibus anticarum atris.

Phalæna bimaculata. Fab. Ent. Syst. 3. 186. 207.

Phalæna Geometra Bimaculata. Villars. Ent. 2. 373. 595. *cum icone.*

Geometra Taminaria. Hüb. Schmet. Geom. 17. 90.

HABITAT. Imago f. Mai. Nemoribus.

EXPANSIO alarum 1 unc.—1 unc. 1 lin.

DESCRIPTIO. Prima macula costalis in medio, secunda *inter* primam et marginem posticum, ex quibus in exemplaribus præclaribus excurrunt strigæ undulatæ obsoletissimæ transversæ fuscescentes, extima subcommunis.

12. ABBREVIATÆ. Alis varie fuscis, cinereis, viridibusve, posticis magis abbreviatis quam in præcedentibus.

hexapterata. 125. P. (The Seraphim) alis cinereis, basi appendiculatis; fasciis confertis saturatioribus interruptis.

Phalæna hexapterata. Fab. Ent. Syst. 3. 193. 233.

Geometra Hexapterata. Hüb. Schmet. Geom. 44. 252. *Mas.*

HABITAT Imago i. Jun. in Betuletis Cantii, at infrequens.

EXPANSIO alarum 1 unc. 1-2 lin.

DESCRIPTIO. Alæ anticæ basi appendiculo singulari albo, alam parvam simulante, ciliisque instructo, Posticæ albæ margine ipso postico saturatiore, anticis longe breviores ut in fere omnibus hujus sectionis.

Fœmina caret appendiculo.

β. Anticis alis subluteo-albidis, plus minus atomosis; medio absque fasciis. Forte fœminæ varietas; sed ab illa valde differt. Forte alia species.

sexalisata. 126. P. (The small Seraphim) alis appendiculatis, nebulosis, fasciis tribus saturatioribus.

Geometra Sexalisata. Hüb. Schmet. Geom. 44. 228. *Mas.*

HABITAT.

HABITAT. Imago in Sylvaticis Cantii, i. Aug. at valde infrequens.
EXPANSIO alarum 10-11 lin.
DESCRIPTIO. Alæ anticæ appendiculo ut in priore; at subfusco ciliis longioribus: fasciâ ante medium fuscescente pone strigam fuscam: secundâ medio costæ abbreviatâ rhombeâ fuscâ, puncto atro ordinario subocellari: tertia est fimbria fuscescens in qua striga obsoleta undulata alba. Posticæ minus abbreviatæ et minus albæ quam in præcedente, seu albo-fuscescentes, strigâ posticâ fimbriâque saturatioribus.
β. Alis absque appendiculo; forte fœmina.

P. (The netted Pug) alis omnibus glaucis, anticis strigis quatuor undatis anastomosantibus nigris albisve. *venosata.* 127.
Phalæna venosata. Fab. Ent. Syst. 3. 197. 249.
Phalæna diversata. Fab. Ent. Syst. 3. 183. 195.
Phalæna decussata. Donov. Brit. Ins. 8. 266. 3.
Geometra Venosata. Hüb. Schmet. Geom. 47. 244.
HABITAT. Imago f. Jun. Hortis, at valde infrequens.
EXPANSIO alarum 1 unc.
DESCRIPTIO. Alæ anticæ strigâ incurvâ nigrâ basi, secundâ ante medium compositâ ex 2 albis et 3 nigris undatissimis: tertiâ pone medium cum priore anastomosante nigrâ flexâ: quartâ posticâ obsolete communi undatâ compositâ exacte ut in secunda. Margo ipse posticus ordine communi lunularum nigrarum; ciliis glaucis, maculis fuscescentibus.

P. (The pinion-spotted Pug) alis subglaucis strigis geminatis saturatioribus, ad costam in maculas nigras excurrentibus. *consignata.* 128.
Geometra Consignata. Hüb. Schmet. Geom. 47. 245?
HABITAT in Anglia infrequentissime.
EXPANSIO alarum 9 lin.
DESCRIPTIO. Costa anticarum alarum valde nigro maculata, striga recta, valida, abbreviata, aterrima paululum pone medium. Posticæ albido-cinerascentes, puncto ordinario medio nigro.

P. (The Tawny-speck) alis anticis fulvis, costa margineque postico fuscis. *subfulvata.* 129.
Phalæna fulvata. Prod. Lep. Brit. 27. 48.
HABITAT. Imago m. Aug. at valde infrequens, Peridumetis.
EXPANSIO alarum 11-12 lin.
DESCRIPTIO. Alæ anticæ puncto ordinario conspicuo atro costæ fuscæ adnato. Posticæ etiam fuscæ.

OBS. The name fulvata, by right of priority belonging to the P. sociata of Fabricius, as is above shewn; a new one became necesary for the present article.

succenturiata. 130. P. (The bordered Lime-speck) alis omnibus cinerascenti-albis, vix nebulosis, costa anticarum, fimbriaque communi fuscis.

Phalæna succenturiata. Fab. Ent. Syst. 3. 105. 241.

Phalæna Geometra succenturiata. Lin. Faun. Suec. 1294.

HABITAT. Imago Jul. Sylvaticis apud Coomb-Wood, at valde infrequens.

EXPANSIO alarum 11-12 lin.

DESCRIPTIO. Præcedentis statura, characteribus simillimis, at diversis coloribus, alis puncto ordinario ut in illa.

β. Alis magis albis, magisque nebulosis: posticis mirabiliter omnino obliteratis.

OBS. This singular variety never had even the rudiments of any underwings; it is in the finest preservation imaginable, and when alive and sporting in Coomb Wood, had the strange vacillating flight of a Tipula.

OBS. 2. There are not fewer than three circumstances strikingly remarkable and peculiar in the present section. *First*, their abbreviated underwings, as above noticed, from which by a stretch of imagination, it is probable they have obtained, pretty currently, the name of Pugs, in allusion to the shortened visages of those animals. *Secondly*, the two species of Seraphim possessing the unexampled characteristic of a minute, yet perfectly ciliated third pair of wings. *And Thirdly*, variety β, just enumerated, exhibiting the unique occurrence of a truly dipterous insect in the class Lepidoptera!

Centaureata. 131. P. (The Lime-speck) alis albis nigro nebulosis, costa ultra medium maculaque postica trigona atris.

Phalæna centaureata. Fab. Ent. Syst. 3. 186. 209.

Geometra Centaureata. Hüb. Schmet. Geom. 46. 240.

HABITAT. Imago f. Jun. Hortis, at infrequens.

EXPANSIO alarum 10 lin.

DESCRIPTIO. Alæ costâ anticæ fere totâ subinterrupte atrâ, maculâ fere trigonâ atrâ pone medium, in qua lunula aterrima. Posticæ albæ, margine interiore et postico, punctoque ordinario plus minus fuscis vel fuscescentibus.

elongata. 132. P. (The long-winged Pug) alis omnibus fuscis, anticis punctis costalibus nigris, alteroque majore medio ordinario atro.

HABITAT

HABITAT apud nos rarissime.
EXPANSIO alarum 11-13 lin.
DESCRIPTIO. Alæ elongatæ uniformiter fuscæ, puncto ordinario magno medio atro, at costam versus. Posticæ parum pallidiores puncto ordinario minore.
Forte varietas fæminæ sequentis, at valde discrepat.

P. (The Wormwood Pug) alis omnibus griseo-fuscis, anticis punctis costalibus, alteroque conspicuo ordinario atris, strigaque postica interrupta undulata alba. *Absinthiata.* 133.
Phalæna Geometra Absinthiata. Lin. Faun. Suec. 1296.
HABITAT. Imago in Hortis frequens, f. Jun.
EXPANSIO alarum 10 lin.
DESCRIPTIO. Præcedente longe minor, at vix notabiliter differt nisi in alis anticis minus elongatis, strigaque alba valde interrupta earum, juxta marginem posticum quæ incrassata est ad angulum ani. Posticæ angulo ani cinereo punctulo albo.
β. Puncto ordinario, punctisque costalibus fere omnino obliteratis.

P. (The common Pug) alis griseo-fuscis fere immaculatis, striga obsoleta postica undulata alba, intus fusca. *vulgata.* 134.
Geometra Minuta. Hüb. Schmet. Geom. 45. 237 ?
HABITAT. Imago in Hortis frequens Jun. Jul.
EXPANSIO alarum 10 lin.
DESCRIPTIO. A varietate β præcedentis vix ullo modo differt, nisi in striga postica alba magis obsoleta, et in fasciola repanda medio anticarum alarum obsoletissima ex strigis 3-4 pallidioribus saturatioribusque.

P. (The plain Pug) alis griseis, strigis variis obsoletis pallidioribus, fimbriaque obsoleta communi saturatiore. *simpliciata.* 135.
HABITAT. Imago in Hortis æstate.
EXPANSIO alarum 9-10 lin.
DESCRIPTIO. Præcedentibus major, magisque robusta, alis rotundioribus paululum pallidioribus.

P. (The small grey Pug) alis omnibus cinerascentibus, strigis, fimbriaque communi obsoletis, saturatioribus, punctoque ordinario atro. *pusillata.* 136.
Geometra Pusillata. Fab. Ent. Syst. 3. 204. 279 ?
HABITAT cum priore, at frequentior.
EXPANSIO alarum 7-8 lin.
DESCRIPTIO. Ultima duplo minor, alis anticis longe pallidioribus,

dioribus, posticis saturatioribus cinereis: at forte mera varietas.

plumbeolata. 137. P. (The lead-coloured Pug) alis plumbeo-cinerascentibus, undis numerosis obsoletis saturatioribus pallidioribusque.
Habitat in Sylvis, at infrequens, Imago f. Mai.
Expansio alarum 7-8 lin.
Descriptio. Prioribus satis discrepat in plumbeo colore, et in absentia puncti ordinarii.
β. Minor strigis obsoletis solum duabus medio, fuscis, postica communi. Forte distincta.

subfuscata. 138. P. (The brown-grey Pug) alis omnibus cinereo fuscescentibus, limbo postico, punctoque ordinario medio saturatioribus.
Habitat cum priore. Imago f. Mai.
Expansio alarum 9 lin.
Descriptio. Penultima vix differt nisi in coloribus et magnitudine majore. Margo posticus certe saturatior, in quo striga obsoletissima undulata pallescens, fere omnino obliterata, quæ vulgaris est in hac sectione.

singulariata. 139. P. (The grey Pug) alis griseo-cinerascentibus subnebulosis, obsolete undatis, singulis puncto conspicuo ordinario nigro.
Phalæna Geometra singulariata. Vill. Ent. 2. 383.—*tab.* 6. *f.* 20.
Habitat in Sylvaticis vere, at infrequens.
Expansio alarum 11 lin.
Descriptio. Præcedenti similis, at fere duplo major et longe pallidior. Alæ posticæ cinerascentes margine fusco, in quo striga undata alba evanescens.

albipunctata. 140. P. (The speckled Pug) alis fuscis albo obsolete subnebulosis.
Habitat prope Londinum, at rarissime.
Expansio alarum 11 unc.
Descriptio. Ultimæ simillima. Alæ anticæ fuscæ, sive fuscescentes, puncto ordinario nigro, nebulisque obsoletissimis pallidioribus, strigaque communi in margine postico vix undulata, ex punctis confertis, albis, punctoque costali albo ante strigam. Posticæ fuscæ striga supradicta.

nebulata. 141. P. (The brindled Pug) alis omnibus griseis nigro parum nebulosis; anticis puncto ordinario evanescente nigro.
Habitat cum prioribus.
Expansio alarum 10 lin.

Descriptio.

DESCRIPTIO. Alæ paululum angustiores magisque rufescentes quam in antecedentibus, nigro minutissime nebulosæ. Posticæ cinereæ strigis duabus evanescentibus atomarum nigrarum lineolæformarum.

P. (The small brindled Pug) alis griseis, nebulis variis acutis nigris. *subumbrata.* 142.

Geometra Subumbrata. Hüb. Schmet. Geom. 45. 233.

HABITAT, cum præcedentibus.

EXPANSIO alarum 8 lin.

DESCRIPTIO. Præcedenti nimis affinis, at duplo minor, nebulis saturatioribus numerosioribus, et magis quasi in strigas dispositis. Interdum fascia angusta ante medium costam versus abrupte unangulata, ex strigis fuscescentibus coeuntibus.

P. (The double-striped Pug) alis rufescentibus, in medio strigis duabus communibus pectinatis fuscis. *bistrigata.* 143.

HABITAT apud nos rarissime.

EXPANSIO alarum 8 lin.

DESCRIPTIO. Strigæ alarum compositæ ex lineolis confertis acutis minutis parallelis transversis. Priori maxime affinis sed strigæ minus angulatæ, magisque communes.

OBS. The last six enumerated articles, and even the next, so greatly resemble each other, and have so many characters in common, that they may all prove to be varieties of one or two species. At present, however, it may be better to keep them, as well as others of this section, distinct; and in so doing I am sanctioned by the opinions of two practical Lepidopterists; one of whom is one of the best judges of *specific distinctions*, in this order of insects, I am acquainted with.

P. (The red-barred Pug) alis griseis nebulosis, fasciis duabus rufescentibus. *rufifasciata.* 144.

HABITAT in Hortis at rarissime. Exemplarium unum solum vidi, quod cepi sedentem in hortulo meo, apud Populi truncum f. Mar. anno 1809.

EXPANSIO alarum 8 lin.

DESCRIPTIO. Alæ anticæ griseæ, nigro nebulosæ, fere ut in præcedente cui simillima sed differt, fasciis duabus angustis rufis pallido marginatis; primâ unangulatâ ante, secundâ paululum undulatâ pone medium.

QBS. Rufus color fasciarum fere evanescit cum vita.

angustata. 145.

P. (The narrow-winged Pug) alis elongatis sublanceolatis cinereis, fasciolis obliquis albicantibus.

HABITAT in Cantio apud Westerham, at valde infrequens. Imago i. Aug. Sepibus.

EXPANSIO alarum 9 lin.

DESCRIPTIO. Ab omnibus hujus generis longe discrepat in alis angustioribus, strigisque tribus præobliquis subæquidistantibus albidis obsolete communibus; prima recta at præobliqua a medio marginis tenuioris usque ad costam, puncto ordinario nigro solum interrupta: secunda duplo latior, parum undata, pone punctum: tertia undulata albidior juxta marginem posticum ut in multis, at magis obliqua. Posticæ itidem elongatæ, cinereæ, strigis pallescentibus vix distinctis.

variegata. 146.

P. (The marbled Pug) alis albidis, strigis fasciisque fuscis marmoratis.

HABITAT prope Londinum at rarissime. Exemplaria tria solum vidi.

EXPANSIO alarum 10 lin.

DESCRIPTIO. Alæ anticæ strigâ obsoletâ unangulatâ fuscâ ad basin, ante fasciam angustam simillimam; tunc ante medium strigâ aliâ angustâ: tunc in medio fasciâ alterâ unangulatâ cinereâ ex strigis tribus angustis fuscis, puncto ordinario atro transiente primam: denique fimbriâ undulatâ fuscâ albido interruptâ. Posticæ cinereæ.

trimaculata. 147.

P. (The mottled Pug) alis griseo-albicantibus, fusco nebulosis, maculis tribus posticis trapeziformibus fuscis.

HABITAT. Imago i. Jun. Sepibus, at infrequens.

EXPANSIO alarum 10 lin.

DESCRIPTIO. Ultimæ certe affinis, at valde distincta, strigis anticis ejus fere omnino obliteratis: puncto atro ordinario in medio alarum, et pone hoc striga recta pectinata, ex lineolis acutis confertis transversis; et inter has et marginem posticum fascia ex maculis tribus fuscis transversis exacte trapeziformibus. Posticæ fuscescentes, angulo ani cinereo, puncto ordinario fusco, punctulisque fuscis in ipso margine postico. Cilia anticarum fuscescentia maculis fuscis, posticarum cinerea.

lævigata. 148.

P. (The Juniper Pug) alis cinereis, albo fuscoque nebulosis strigatisque.

Phalæna lævigata. Fab. Ent. Syst. 3. 197. 247?

Geometra Lævigaria. Hüb. Schmet. Geom. 14. 74?

HABITAT

Habitat Larva in Junipero communi, in Com. Norf. Rev. J. Burrell. Imago i. Aug. Hortis. Etiam prope Londinum.
Expansio alarum 9-10 lin.
Descriptio. Larva prægracilis, glabra, viridis, lineâ dorsali saturatiore quæ tamen in junioribus rubro interrupta est; lineisque duabus utrinque lateralibus, subinterruptis albicantibus: oculis segmentoque ultimo abdominis rufescentibus.
Imago, alis fusco-griseis nebulis albis, lineolisque variis nigris fuscisque, sæpe acutis: striga una alterave angulata nigra, ante punctulum ordinarium. Pone hoc striga pectinata ut in præcedente, at magis interrupta; strigaque postica undulata alba ut in variis.

P. (The black-silk Pug) alis sericeo-nigris nitidis, striga anticarum undulata alba juxta marginem posticum. *nigro-sericeata.* 149.
Habitat apud nos rarissime. Exemplaria duo solum vidi.
Expansio alarum 9. lin.
Descriptio. Posticæ alæ paululum dilutiores. Cilia omnia fusca.

P. (The satin Pug) alis omnibus pallide fuscescentibus sericeis, striga communi undulata juxta marginem posticum, ciliisque albicantibus. *sericeata.* 150.
Habitat in Anglia, D. J. Latham. *
Expansio alarum †

P. (The green Pug) alis viridibus, strigis, nebulis, maculisque tribus posticis rhombeis subconfluentibus fuscis. *rectangulata.* 151.
Phalæna rectangulata. Fab. Ent. Syst. 3. 195. 240.
Phalæna Geometra rectangulata. Lin. Faun. Suec. 1295.
Geometra Rectangulata. Hüb. Schmet. Geom. 45. 235.
Habitat in Hortis vulgaris. Imago m. Jun.
Expansio alarum 9-10 lin.
Descriptio. Maxime variat.
α. Alis omnibus saturate viridibus, costa nigro maculata, strigisque variis undulatis fuscis.
β. Alis viridibus, medio strigis nigris quasi collectis in fasciam latam undatam dentatam communem, fusco colore interjecto.
γ. Alis dilute viridibus, minus nebulosis, strigis tribus subcommunibus, absque puncto ordinario. Forte distincta.
δ. Alis griseo-lutescentibus, fusco nebulosis, fascia lata communi fusca, ex strigis numerosis constructa. Forte merè exemplum antiquum penultimæ varietatis.
ε. Alis viridescentibus, fere toto nigro suffusis.

ζ. Alis

ζ. Alis fuscescentibus, fere toto perfusco sufficis.

V ata. 152. P. (The V Pug) alis viridibus, anticis V nigro prostrato notatis pone medium.
HABITAT. Imago in Hortis f. Jul. at valde infrequens.
EXPANSIO alarum 9-10 lin.
DESCRIPTIO. Dignoscitur primo intuitu litterâ V nigrâ, in postica parte alarum anticarum.
OBS. Basis litteræ V, in alis expansis ad marginem posticum spectat. Posticæ fusco-cinerascentes.
β. Alis posticis potius lutescentibus, quam virescentibus. Forte merum exemplum antiquum.

Linariata. 153. P. (The beautiful Pug) alis fusco rufoque fasciatis: limbo cinereo striga obsoleta undulata alba.
Phalæna linariata. Fab. Ent. Syst. 3. 190. 224.
Phalæna Geometra Linariata. Villars. Ent. 4. 308.
Geometra Blandiata. Hüb. Schmet. Geom. 50. 258.
HABITAT. Imago i. Jun. Sylvaticis, at infrequens.
EXPANSIO alarum 10 lin.
DESCRIPTIO. Penultimæ sine dubio affinis, at valde distincta. Alæ anticæ fasciâ ipso basi fuscâ; tunc fascia lata rufa; aliaque medio, etiam lata cinereo-fusca, parum incurva, extus costam versus latior, puncto oblongo ordinario atro: pone hanc, fascia altera subrepanda rufescens: denique limbus cinereus in quo striga undulata albicans, pone maculas tres transversas saturatiores: prima medio, alteræ marginales. Posticæ cinereæ, strigis obsoletis, vel fimbriâ paululum saturatioribus.

rusticata. 154. P. (The least Carpet) alis albis fascia medio undata fusca, punctum atrum ordinarium includente.
Phalæna rusticata. Fab. Ent. Syst. 3. 189. 218.
Geometra Rusticata. Hüb. Schmet. Geom. 46. 241.
HABITAT. Imago m. Jul. Lucis.
EXPANSIO alarum 8 lin.
DESCRIPTIO. Alæ anticæ fasciâ undatâ, vel subundulatâ medio, quasi trilobatâ; inter hanc et marginem posticum in præclaribus striga fuscescens. Posticæ albidæ, undis post basin cinereis, punctoque conspicuo ordinario atro. Margo ipse posticus ordine communi punctorum minutorum. Cilia omnia alba.
OBS. It remains to be observed concerning this section, that all its species, when at rest, expand their wings horizontally, in the neat manner usually imitated in the London cabinets of Lepidoptera. Some sections of the Geometræ also repose in the same elegant attitude.

15. CRAM-

15. CRAMBUS.

(THE SNOUT.)

Crambus. Fab. Supp. 464.

Phalæna Pyralis. Lin.—Yates.

CHARACTER GENERIS.

Palpi quatuor: anteriores breviores, extrorsum crassiores, oblique truncati: Posteriores porrecti, compressi, conniventes. F.

Antennæ setaceæ, sive hirto-pectinatæ.

Corpus gracile Geometrarum, alis forficatis.

Larva 16-poda, non Geometra.

CHARACTERES SECTIONUM.

1. ROSTRATI, palpis maximis porrectis hirsutis; alis fasciatis, sæpe punctulis paucis elevatis.

2. STRIGATI, palpis magnis sæpissime reflexis, hirsutis; alis strigatis.

3. PINGUINALES, palpis mediocribus, alis strigatis, lucidis, et quasi pingui imbutis.

Obs. It is extremely probable that the three sections of this genus above given, will constitute as many distinct genera, as soon as the generical characters of Lepidopterous Entomology are better understood.

CHARACTERES SPECIERUM.

1. ROSTRATI. Palpis maximis porrectis hirsutis; alis fasciatis, sæpe punctulis paucis elevatis.

C. (The Snout) alis acutis subretusis griseis, strigis duabus, fasciaque fuscis. *proboscidatus.* 1.

Crambus

Crambus proboscideus. Fab. Supp. 465. 7.
Phalæna Pyralis proboscidalis. Lin. Faun. Suec. 1346.
Pyralis Proboscidalis. Hüb. Schmet. Pyr. 2. 7.
Habitat. Imago f. Jun.—f. Aug. Sepibus vulgaris.
Expansio alarum 2 unc.
Descriptio. Alæ anticæ strigâ primâ ante medium incurvâ: tunc in medio fascia angusta recte obliqua, at anterius sæpe indeterminata: inter hanc et marginem posticum striga repanda, quæ costam non attingit, sed sæpius externe instructa costam versus punctis 3-6 albidis : denique lineola obliqua apicis fusca ut in quinque sequentibus. Posticæ fuscæ. Cilia omnia griseo-cinerea.

palpatus. 2.

C. (The dark Snout) alis acutis subretusis pullis, strigis tribus obsoletissimis saturatioribus.
Crambus palpatis. Fab. Supp. 466. 15.
Pyralis Palpalis. Hüb. Schmet. Pyr. 2. 9.
Habitat in Anglia rarissime. D. Francillon. Exemplaria peregrina solum possideo.
Expansio alarum 1 unc. 2 lin.
Descriptio. Alæ anticæ pullæ, strigâ valde flexuosâ ante medium: secunda elevata transversa medio, extus costam versus dente magno at obsoleto; inter hanc et marginem posticum tertia magis obsoleta ex punctis obsoletis elevatis saturatioribus. Ad ipsum marginem posticum sæpius ordo punctorum obsoletorum pallidiorum. Posticæ perlepidè piceæ atque nitentes.
Obs. Puncta ordinaria elevata pulla extant in medio anticarum alarum, ut in quatuor sequentibus.

crassatus. 3.

C. (The pinion Snout) alis acutis subretusis griseo-cinereis, macula magna nigra costali ante strigam elevatam obsoletam transversam unidentatam pullam, medio.
Crambus crassalis. Fab. Supp. 466. 13.
Pyralis Crassalis. Hüb. Schmet. Pyr. 2. 8.
Habitat apud nos rarissime. Exemplarium unum Anglicanum solum vidi: sed multa ex Americæ Georgiâ.
Expansio alarum 1 unc. 2 lin.
Descriptio. Præcedenti maxime affinis sed distinctus: nempe minor est, palpis majoribus! Macula nigra seu pulla anticarum a basi ad strigam medio alæ, at basin versus attenuata. In ceteris priore omnino convenit.

rostratus. 4.

C. (The buttoned Snout) alis acutis subretusis griseo-pallidis, atro nebulosis tuberculatisque.
Crambus rostratus. Fab. Supp. 466. 11.

Phalæna

Phalæna Pyralis rostralis. Lin. Faun. Suec. 1347.
Pyralis Rostralis. Hüb. Schmet. Pyr. 2. 10.
HABITAT. Imago f. Jun. Sepibus, at infrequens.
EXPANSIO alarum 1 unc. 2 lin.
DESCRIPTIO. Alæ anticæ a basi ad medium sæpe saturatiores; punctis lineolaque fere in medio elevatis. Posticæ fuscescentes.
β. Alis fere toto griseo-fuscis, tuberculis quatuor medio fuscis subinde albido plus minus obsolete cinctis, ut in α. Posticis alis fuscis. Forte propria species.
Geometra hispidata. Fab. Ent. Syst. 3. 210. 301?
HABITAT cum α.

C. (The cream-edged Snout) alis acutis subretusis griseo-pallidis, fusco subnebulosis, stria lata seu vitta recta costali flavicante. *vittatus.* 5.
Pyralis vittalis. Prod. Lep. Brit. 29, 24.
HABITAT. Imago m. Mai. f. Jun. Sepibus apud Chelseiam at valde infrequens.
EXPANSIO alarum 1 unc. 2 lin.
DESCRIPTIO. Costæ anticarum vittâ flavicante priore solum discrepat. Forte mera ejus varietas.

C. (The beautiful Snout) alis acutis subretusis, albis, macula maxima dolabriformi a basi post medium piceo-nigra. *achatatus.* 6.
Pyralis Achatalis. Hüb. Schmet. Pyr. 2. 12.
HABITAT in Anglia rarissime. Exemplaria tria anglicana solum vidi. Imago i. Jun. Nemoribus Cantianis.
EXPANSIO alarum 1 unc. 3 lin.
DESCRIPTIO. Macula maxima dolabriformis alarum anticarum extendit pene ad marginem tenuiorem. Inter hanc et marginem posticum striga parum arcuata punctorum nigrorum: lineolaque valida apicis nigra. Posticæ fuscæ.
OBS. The last five species are all uncommon in England.—By the works of Hübner they appear likewise to inhabit the continent of Europe, except vittatus; and what is more remarkable, I have seen them all from North America.

C. (The dingy Snout) alis angustis fuscis strigis duabus medio, saturatioribus obsoletissimis evanescentibus. *obscuratus.* 7.
HABITAT apud nos rarissime. Imago apud Darn Wood.
EXPANSIO alarum 1 unc. 1 lin.
DESCRIPTIO. Strigæ alarum, una recta paulo ante medium, secunda exactè inter primam et marginem posticum, atque paululum flexa costam versus. Posticæ amplissimæ parum pallidiores immaculatæ, ciliis albidis. Forte alii generis.

OBS.

Obs. This is so extremely like the Tinea Ahenella of Hüb. Schmet. that it may prove to be a mere variety of it; although the Strigæ differ from those in his figure.

angustatus. 8. C. (The small Snout) alis fusco-fulvis, fascia medio deorsum attenuata saturatiore, costaque perlepide albo punctata.
Pyralis Angustalis. Hüb. Schmet. Pyr. 4. 21.
Habitat, Imago apud Coomb Wood, m. Jul.
Expansio alarum 1 unc.
Descriptio. Alæ longe angustiores quam in præcedentibus, atque lineola obliqua apicis anticarum, costâ usque per fasciam punctis concinnis numerosis albis extrorsum inclinantibus, et sæpe per paria quasi dispositis: fasciâ supradictâ costam versus sæpe insolidâ, puncto ordinario fuscescente. Posticæ fuscæ, ciliis rufis. Cilia alia saturatiora.

Bombycatus. 9. C. (The long-tailed Snout) alis acutis subluteis, fascia medio obsoleta, saturatiore, abdomine elongato subulato.
Pyralis Bombycalis. Hüb. Schmet. Pyr. 19. 123 ?
Habitat in Anglia rarissime. Exemplarium unum solum vidi.
Expansio alarum 11 lin.
Obs. Alæ posticæ fere fuscæ, fascia incompleta obsoletissima pallidiore evanescente. Forte fœmina præcedentis.

albistrigatis. 10. C. (The white-line Snout) alis subfuscis, fascia lata saturatiore nigro, albo obsolete terminata.
Habitat apud nos infrequentissime tempore oblito.
Expansio alarum 10 lin.
Descriptio. Palpi præcedentium. Alæ anticæ puncto obsoleto ordinario post medium fasciæ anticarum.

2. STRIATI, Palpis maximis sæpissime reflexis, hirsutis; alis strigatis.

barbatus. 11. C. (The common Fanfoot) alis cinerascentibus, strigis tribus saturatioribus.
Crambus barbatus. Fab. Supp. 464. 2.
Phalæna Geometra barbalis. Lin. Faun. Suec. 1345, *et ejus Mus.*
Phalæna Geometra strigillata. Lin. Faun. Suec. 1291, *et ejus Mus.*
Pyralis barbalis. Fab. Ent. Syst. 3. 219. 338.
Pyralis Pectitalis. Hüb. Schmet. 19. 122.

Habitat.

HABITAT. Imago m. Mai. i. Jul. Sylvis.
EXPANSIO alarum 1 unc. 3 lin.
DESCRIPTIO. Maris antennæ paulo pectinatæ. Pedes antici porrectim barbati. Alæ anticæ plus minus griseo-cinerascentes, strigâ extus unangulatâ ante, alterâque simillimâ pone medium; tertiâque obliquâ rectâ inter ultimam et marginem posticum saturatioribus. Posticæ pone medium atque costam versus pallidiores, strigis duabus obsoletis ultra medium saturatioribus, strigâque aliâ tenuissimâ fuscâ et communi in ipso margine postico.
OBS. Had I not seen the Linnæan specimens of Ph. strigillata: and Ph. barbalis of Faun. Suec. I should not have supposed they had been the same.

C. (The clay Fanfoot) alis griseo-rufis, strigis duabus lunulaque interjecta longe saturatioribus. *derivatus.* 12.
Pyralis Derivalis. Hüb. Schmet. Pyr. 3. 19?
HABITAT valde infrequens. Imago peridumetis Cantii.
EXPANSIO alarum 1 unc. 2 lin.
DESCRIPTIO. Antennæ setaceæ. Alæ omnes rufescentes, strigâ anticarum vix incurvâ ante alterâque valde incurvâ atque communi pone medium, saturatioribus. In omnibus alis lunula sive comma medio, saturatiore; strigaque tenuissima in ipso margine postico ut in præcedente.

C. (The olive Crescent) alis fusco-flavescentibus, strigis duabus lunulaque medio flavescentibus. *emortuatus.* 13.
Pyralis Emortualis. Hüb. Schmet. Pyral. 1. 1?
HABITAT in Anglia. D. Swainson.
EXPANSIO alarum 1 unc.
DESCRIPTIO. Statura et magnitudo atque color C. derivati.
OBS. The above description was taken several years since from Mr. Swainson's collection of english insects.

C. (The Fanfoot) alis sordide rufescentibus, strigis tribus lunulaque fuscis. *tarsicrinatus.* 14.
Pyralis Tarsicrinalis. Hüb. Schmet. Pyr. 1. 5.
Pyralis tentaculalis. Prod. Lep. Brit. 29. 26. *nec verè Hübneri.*
HABITAT, Imago Sylvaticis rarius.
EXPANSIO alarum 1 unc. 2-3 lin.
DESCRIPTIO. Strigæ duæ anticæ alarum anticarum fere ut in præcedente, at secunda magis undata: tertia striga rectissime obliqua est prope marginem posticum. Posticæ pallide fuscæ, strigâ posticâ saturatiore, extus albidâ.

Mas a Fœmina valde discrepat pedibus anticis singulariter, alteque barbatis.

nemoratus. 15. C. (The small Fanfoot) alis sordide rufescentibus, strigis tribus lunulaque fuscis, postica striga apicem recurvantim desinente.

Crambus nemorum. Fab. Supp. 466. 12.
Phalæna nemoralis. Fab. Ent. Syst. 3. 222. 348.
Pyralis Grisealis. Hüb. Schmet. Pyr. 1. 4.
HABITAT. Imago Sylvaticis vix infrequens.
EXPANSIO alarum 1 unc.—1 unc. 1-2 lin.
DESCRIPTIO. Priori simillima ut ovum ovo: differt tamen magnitudine minore, strigaque postica parum recurva et in ipso apice ducta.
β. Longe minor.

Salicatus. 16. C. (The lesser Bell) alis cinereo-plumbeis, strigis tribus obliquis æquidistributis, tertia recurvantim ipso apice ducta.

Phalæna Salicalis. Fab. Ent. Syst. 3. 227. 369.
Pyralis Salicalis. Hüb. Schmet. Pyr. 1. 3.
HABITAT. Imago m. Jun. Sylvaticis betulosis, at valde infrequens.
EXPANSIO alarum, 1 unc. 1 lin.
DESCRIPTIO. Ultima satis differt, palpis minoribus fere rectis; colore; absentiâ lunulæ; et strigâ secundâ rectim obliquâ, nec undatâ.
Posticæ fuscescentes.
OBS. Antennæ maris, minus hirto-pectinatæ quam in præcedentibus hujus Sectionis.
OBS. 2. The present, is one of those remarkable species that were formerly taken in considerable pleaty, and that for the last twenty years have hardly been found in England: no specimens of it have occured to any collector within our knowledge, for the last thirty years, till Mr. Neale took one at Charlton, about two years since; and the late remarkable fine season, which has afforded nearly half a dozen more.

3. PIN-

3. PINGUINALES. Palpis mediocribus, alis, strigatis luteis, et quasi pingui imbutis.

C. (The large Tabby) alis longis cinereis, strigis tribus flexuosis fuscis, posticis duabus obsoletis nebulosis. *pinguinatus*. 17.

Crambus pinguis. Fab. Supp. 468. 27.

Phalæna Pyralis pinguinalis. Lin. Faun. Suec. 1350.

Phalæna pinguinalis. Fab. Ent. Syst. 3. 230. 377.

HABITAT apud nos infrequens, Imago f. Jul. Domibus.

EXPANSIO alarum 1 unc. 6 lin.

DESCRIPTIO. Alæ parum elongatæ cinereæ oleoso-nitentes, puncto baseos, strigisque, duabus contiguis præflexuosis fuscis paulo ante medium, et inter has colore parum pallidiore: exactè inter has et marginem posticum strigâ tertiâ undulatâ fuscâ, colore pallidiore terminatâ, et certo situ subduplicatâ: et inter secundam et tertiam medio alæ, colore certo situ paululum saturatiore, punctoque fusco ordinario secundam strigam atque costam parum versus: Posticæ pallidæ fuscæ obsolete nebulosim bistrigatæ aliquot pone medium. Cilia omnibus alis etiam fusca.

OBS. Linnæus, however incredible it may appear, asserts that this species is capable of living in the high temperature of the human stomach, there proving itself the worst of worms; and that it is to be expelled by an infusion of the Lichen cumatilis. His words are, " Habitat in domibus, victitans *pinguibus*, Butyro; in ventriculo humano Larva pessima expellenda infuso Lichenis cumatilis." *Lin. Faun. l. c.*

OBS. 2. The Larvæ are supposed to be taken into the stomach with our food, on which their eggs are often deposited. Fortunately but few can escape the ordinary processes of mastication. These, however, prove dangerous inmates, and of difficult expulsion.

Destined by its great Maker, for reasons beyond the sphere of our research, to live occasionally in so extraordinary a situation; Nature, that it may succeed, hath enabled it, not only to enjoy the high heat of our stomachs undigested, and uninjured, but permitted it to wallow with impunity in the very midst of such oily substances as would prove the immediate destruction of any other insect. Even the Oestri themselves, which pass their Larva state in the stomachs of horses, and in the nostrils and bowels of sheep (often to the extreme suffering and death of those valuable animals)

mals) could not sustain with life, an immersion in such greasy matter, as this strange creature so much delights in.

pinguiculatus. 18. C. (The Tabby) alis mediocribus cinereis, strigis tribus obsoletis flexuosis fuscis, posticis fuscescentibus immaculatis.

HABITAT cum priore, at frequentior. Imago Domibus, m. Aug.

EXPANSIO alarum 1 unc. 2-3 lin.

DESCRIPTIO. Præcedentis forte varietas, et vix differt, nisi in utroque sexu, staturâ minore, alisque mediocribus, nec parum elongatis. Posticæ absque nebulis. Antennæ maris hirto-pectinatæ.

dimidiatus. 19. C. (The Tea Tabby) alis subangustis cinereis nigro nebulosis.

HABITAT in Tabernis mercatorum orientalium inter Theas. Imago i. Aug.

EXPANSIO alarum 10-13 lin.

DESCRIPTIO. Præcedenti maxime affinis at longe minor. Valde nitens et quasi tinctura obsoleta purpurascente. Alæ anticæ nebulis sparsis circiter quinque nigris, costa itidem nigra punctis pallescentibus obsoletis. Posticæ pallide fuscæ.

β. Major alis cinereo-purpureis, nigro nebulosis. Forte sexus alter.

OBS. This singular species is in the english cabinet of Mr. Francillon, and I long since procured a bad specimen of it myself. The above description was drawn up from a recent one, lately communicated by my friend Mr. Hatchett, who moreover informs me that it is found not unfrequently in the warehouses of the East India Company, feeding amongst, and of course doing damage to, their chests of Teas. But what is very remarkable, and truly fixes the insect as a british species; it is never found in any of the chests, except such as have become *cracked*, and damaged from prior causes.

capreolatus. 20. C. (The small Tabby) alis fusco-purpurascentibus, strigis duabus flexuosis lituraque interjecta pallidioribus.

Pyralis Capreolata. Hüb. Schmet. Pyr. 23. 153.

HABITAT. Imago f. Jul. Domibus.

EXPANSIO alarum 10-13 lin.

DESCRIPTIO. Valde affinis prioribus hujus sectionis. Alæ anticæ subangustæ obtusæ fusco-purpurascentæ, sed basi marginique postico certo situ pallidiores; strigâ flexâ ante medium, alterâque repandâ juxta marginem posticum obsoletis

letis pallidis. Posticæ parum fuscescentes, sive albicantes.

OBS. The four last enumerated species greatly resemble each other, and possess many characters in common, not only in their greasy hues, and tabbied markings; but it is to be suspected, likewise in their modes of life.

They frequent cellars, larders, and even privies: and very likely all occasionally consume our provisions, and with them, at times, casually enter the recesses of our stomachs; the extraordinary heat of which, as above shown, they are capable of sustaining with impunity. The mischief they are accused of occasioning there, is probably only when they superabound: for in small quantities it is presumed, they (and other worms) may sometimes even be serviceable: as we have full reason to believe that no living creature was made in vain: and that the Omnipotent, in his inscrutable wisdom, hath destined them at times to feed and repose there; and hath effectually secured to them, and all his other creatures, not only a perpetuity, through innumerable generations, but also substantial happiness, and appropriate pleasure, in due proportion, to every individual, however despicable to our limited knowledge it may appear.

Difficult, therefore, as it must be, to conjecture the uses of such apparently noxious inmates in the stomachs and intestines of living creatures, as these insects and the Oestri; yet philosophers, arguing upon the principles of the speculative Darwin, would surmise, that to a given extent, they are serviceable in keeping up certain stimuli necessary to the due secretion of peculiar fluids, on which immediately or remotely depends the welfare of some or ether of the animal functions and spirits: and that creatures deprived of these would find that partial stagnation and consequent languor would ensue, and the eventual slow diminution of health.

The philosopher Darwin, in his great and fascinating work (the growth of more than twenty years) the *Zoonomia*, adduces cases which show the above argument probable; for they prove that the suspension even of some of the most disagreeable occurrences of life, *if of long continuance, is necessary to be continued*, on account of the irritating stimuli they have been accustomed to communicate to the mental and corporeal powers; suddenly deprived of which he has seen patients gradually sink, debilitated, more, and more; even into the grave!

OBS. 2. It appears obvious why the Tabbies are found in the vicinities

vicinities of privies: because, after they are full fed larvæ in the stomach, they suffer themselves instinctively to pass off through the alimentary canal, along with its rejected contents, into the open air, for the purposes of more secure pupation, and the future increase of their species.

colonatus. 21. C. (The Green-shaded) alis griseo-virescentibus, strigis duabus flexuoso-dentatis saturatioribus puncto geminato nigro interjecto.

Crambus colonum. Fab. Supp. 469. 32.
Phalæna Tinea colonella. Lin. Faun. Suec. 1358.
Tinea Colonella. Fab. Ent. Syst. 3. 288. 5.
Tinea colonella. Hüb. Schmet. Tin. 4. 23.
HABITAT Imago i. Jun. Hortis.
EXPANSIO alarum 1 unc. 4 lin.
DESCRIPTIO. Caput albidum, oculis nigris, antennis setaceis. Alæ anticæ strigâ præflexuosâ evanescente ante, aliâque simili pone medium; et inter has colore parum rufescente, punctisque duobus contiguis nigris medio alæ costam versus, anteriore minore. Puncta parva costalia fusca prope apicem, strigaque concinna punctorum nigrorum in ipso margine postico. Posticæ amplæ fuscæ. Cilia anticarum purpurascentia, posticarum pallide fusca.

farinatus. 22. C. (The Meal Moth) alis brunneo-fuscis, fascia medio latissima sinuata, glauca, albo utraque marginata.

Phalæna Pyralis farinalis. Lin. Faun. Suec. 1348.
Phalæna farinalis. Fab. Ent. Syst. 3. 219. 336.
Pyralis Farinalis. Hüb. Schmet. Pyr. 15. 95.
HABITAT in Domibus. Imago f. Aug.
EXPANSIO alarum 1 unc.—1 unc. 2 lin.
DESCRIPTIO. Posticæ alæ fuscæ, strigis duabus sinuatis albis medio, colorem saturatiorem amplectentibus. In ipso margine postico ordo sæpe incompletus macularum nigrarum, angulum ani versus validiorum.

marginatus. 23. * † C. (The scarce Meal Moth) alis fuscescentibus, fasciis duabus fuscis albo marginatis, antica basi, postica marginali.

HABITAT in Anglia. D. Swainson.
OBS. Valde affinis C. farinat i. An P. Rubidalis. Hüb.?

glaucinatus. 24. C. (The Double-striped) alis subbrunneo-fuscis, strigis duabus rectis perpendicularibus albidis.

Crambus glaucinatus. Fab. Supp. 464. 1.
Phalæna Pyralis glaucinalis. Lin. Faun. Suec. 1349.

Phalæna

Phalæna glaucinalis. Fab. Ent. Syst. 3. 219. 337.
Pyralis Nitidalis. Hüb. Schmet. 15. 98.
HABITAT. Imago i. Aug. Sepibus at valde infrequens.
EXPANSIO alarum 1 unc.
DESCRIPTIO. Strigæ anticarum alarum ad ipsam costam incrassatæ flavicantes, prima ante, secunda pone medium. Inter strigas puncta costalia parva plurima flavicantia. Posticæ fuscæ striga subincurva ante, alteraque paulo pone medium subundulata albis.

C. (The gold Fringe) alis omnibus purpurascentibus, ciliis amplissimis, margine ipso postico, maculisque duabus costalibus aureis. *costatus.* 25.
Phalæna costalis. Fab. Ent. Syst. 3. 240. 420.
Pyralis Fimbrialis. Hüb. Schmet. Pyr. 15. 97.
HABITAT. Imago i. Jul. Sepibus, sed infrequens.
EXPANSIO alarum 8-9 lin.
DESCRIPTIO. Alæ anticæ macula majuscula ante, alteraque pone medium costalibus trapeziformibus aureis, ex quibus subinde lucibus certis excurrunt strigæ duæ lutescentes imperfectæ, et fere omnino obliteratæ atque evanescentes. Posticæ strigis duabus simillimis at magis conspicuis.

C. (The Rosy-flounced) alis omnibus griseo-purpurascentibus, anticis strigis duabus, posticis fascia, albicantibus. *flameatus.* 26.
Pyralis Flamealis. Hüb. Schmet. Pyr. 15. 99.
HABITAT. Imago f. Jun. Spartiosis, apud Coomb Wood frequens.
EXPANSIO alarum 9 lin.
DESCRIPTIO. Alæ anticæ acutiores quam in cæteris hujus sectionis, costâ fusco alboque crebre punctatâ, strigâ incurvâ ante, alterâque juxta marginem posticum albidis, intus subfuscis, puncto ordinario interjecto. Pone secundam alæ magis purpurascentes. Cilia alba sed maculâ magnâ nigrâ medio marginis alæ. Posticæ fasciâ medio, griseo-albidâ: pone fasciam fimbria latissima cinereo-rosea, ciliis albis. In ipso margine postico striga communis tenuissima nigra.

16. PYRALIS.

(THE PEARL.)

Phalæna Geometra, et Pyralis. Lin.—Yates.

CHARACTERES GENERIS.

Palpi porrecti mediocres Noctuarum, apice subulati.

Antennæ setaceæ.

Corpus gracile Geometrarum, alis forficatis, politis.

Larva 16-poda non Geometra.

CHARACTERES SECTIONUM.

1. STRAMINALES. Alis plus minus stramineis, seu flavicantibus, nitidis, strigis lævibus saturatioribus.

2. ALBIDALES. Alis plerumque albidis rarius cinereis; perlepide strigatis, politisque.

3. DIURNALES. Statura semper parva abdominis segmentis margine albis, alis nitidis sæpe plus minus purpurascentibus, volatu diurno solari irregulari.

CHARACTERES SPECIERUM.

1. STRAMINALES. Alis plus minus stramineis, seu flavicantibus, nitidis, strigis lævibus saturatioribus.

verticalis. 1. P. (The Mother of Pearl) alis omnibus pallide stramineis, strigis tribus flexuosis fuscescentibus.

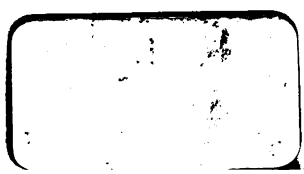
Pyralis Verticalis. Hüb. Schmet. Pyr. 9. 57.

Phalæna Pyralis verticalis. Lin. Faun. Suec. 1353.

Phalæna verticalis. Fab. Ent. Syst. 3. 227. 366.

HABITAT Urticosis. Imago Jul. copiose, volatu verpertino tardiore.

EXPANSIO alarum 1 unc. 4-6 lin.

DESCRIPTIO.

♂. Alæ cinereo-stramineæ, anticæ strigâ rectâ ante medium: tunc punctum rotundum, et subreniforme, loco stigmatum Noctuarum: